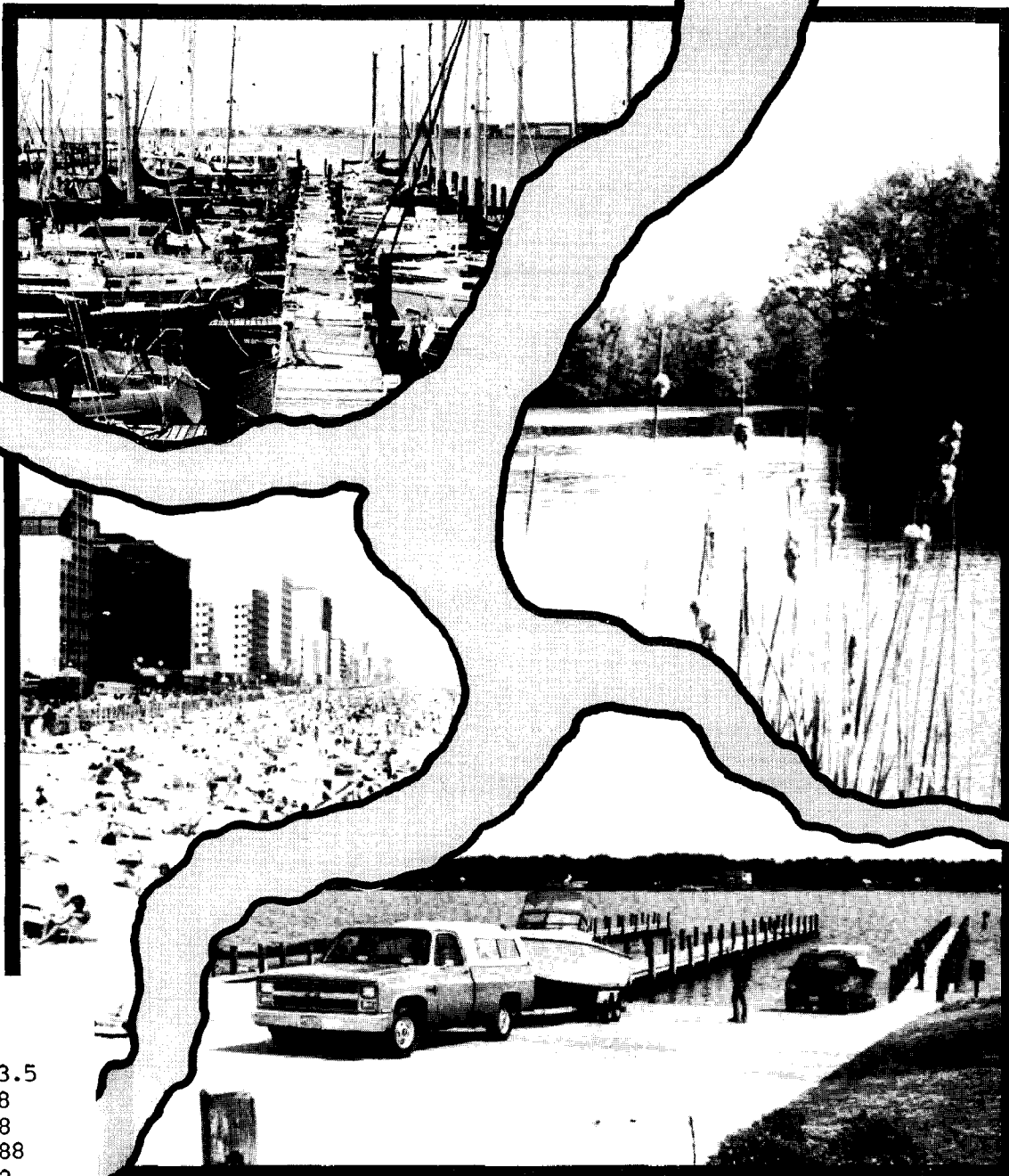


THE WATERS OF SOUTHEASTERN VIRGINIA

VOLUME II: A REGIONAL WATERWAYS GUIDE



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THE WATERS OF SOUTHEASTERN VIRGINIA

Volume II: A Regional Waterways Guide

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INTRODUCTION

The waters of Southeastern Virginia are abundant in recreational potential. Unfortunately, this potential is not being fully realized. One reason for this is insufficient water access opportunities, as discussed in Volume I of this study. Another reason is that most of the region's residents are unaware of the wide range of water-based recreational opportunities available in Southeastern Virginia. The purpose of this volume is to provide a comprehensive recreational guide to the region's waterways. Contained in this guide is an inventory of the region's twenty-five major water bodies and a proposal for a regional scenic waterways system. Figure I is a regional map showing the relative locations of the water bodies included in this guide.

The first section of this guide, a regional waterways inventory, was prepared to assess the recreational potential of each of the region's water bodies. The inventory consists of detailed fact sheets and maps for each water body. The information contained in each fact sheet includes location and general description, tributaries and related water bodies, size, depth, wind and tides, shoreline characteristics, indigenous flora and fauna, appropriate recreational activities, swimming beaches, fishing access points, boating constraints, recreational marina slips and boat ramps, and canoe put-in/take-out points. The maps accompanying the fact sheets show tributaries and related water bodies, major road crossings, public and commercial boat access facilities, and other public shoreline access areas.

The boat access facilities listed in each of the water body fact sheets were given designations that warrant some explanation. Marinas and boat ramps were categorized as public, commercial or private. Public facilities are considered to be owned and operated by a government entity and are open to the general public. Commercial facilities are also open to the general public, but are privately owned and operated as a private enterprise. Private facilities are closed to the general public and open only to specified users such as members of private clubs, residents of private communities or military personnel. Canoe put-in/take-out points are designated as formal and informal. Formal points are those that were specifically designed for boat access. Informal points are those which provide public access, but which were not developed for that purpose.

The second section of this guide, a proposed Regional Scenic Waterways System, is presented as one option for promoting the recreational attributes of the region's waterways. This section includes brief descriptions and maps of proposed canoe trail designations and discusses required support facilities, safety considerations, public relations and promotional activities, and financing.

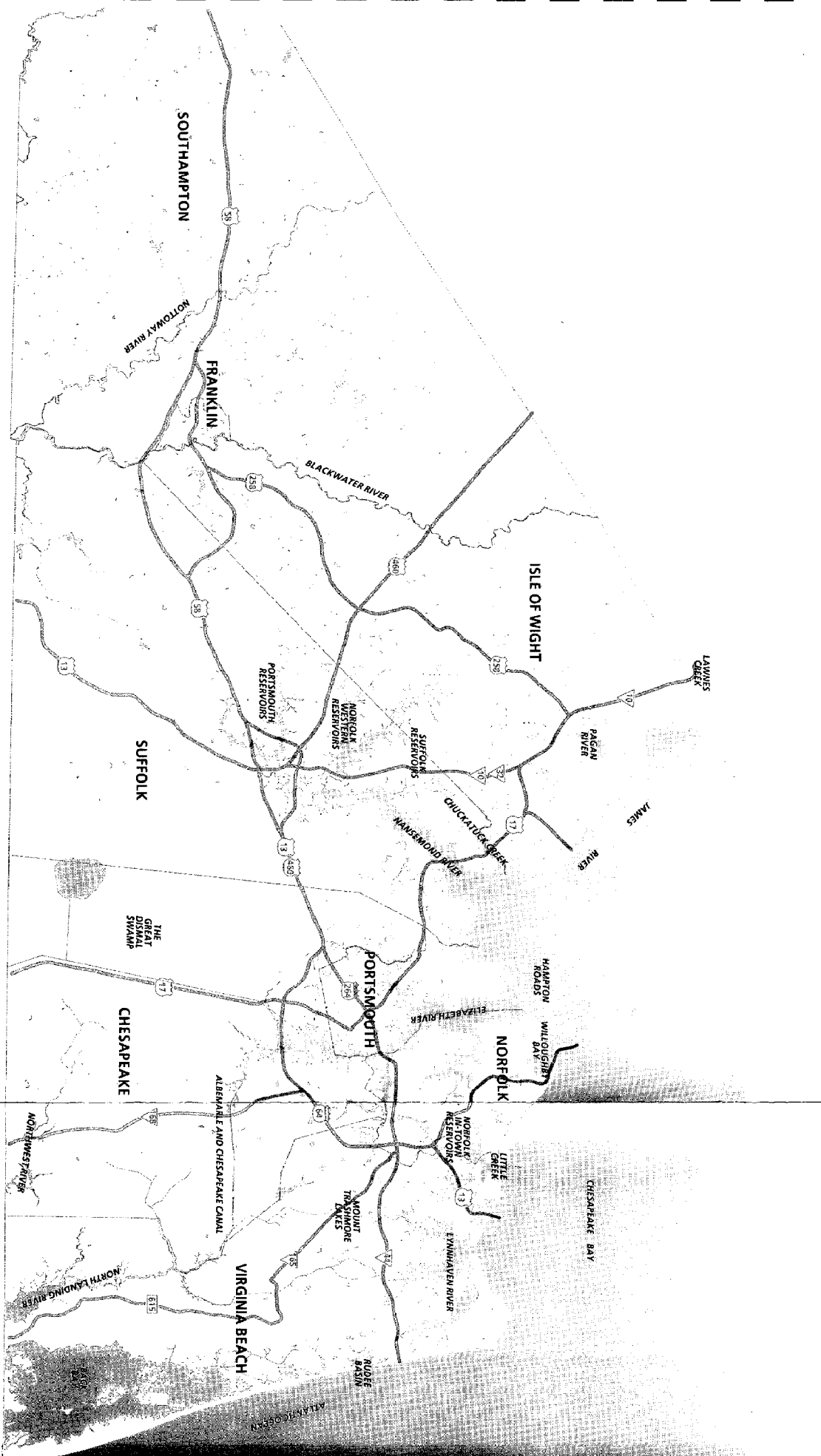


FIGURE I
THE WATERS OF SOUTHEASTERN
VIRGINIA



REGIONAL WATERWAYS INVENTORY

ATLANTIC OCEAN, INSHORE VICINITY

LOCATION AND DESCRIPTION

The Atlantic Ocean (inshore vicinity) is shown in Figure 2. Located off Virginia Beach from the North Carolina State Line to Cape Henry, this area contains the only publicly accessible ocean beaches in Virginia.

TRIBUTARIES AND RELATED WATER BODIES

1. Chesapeake Bay (see page 10)
2. Rudee Basin (see page 7)

SIZE

Twenty-six miles of shoreline and approximately 58,000 acres of water within three miles of shore.

DEPTH

N/A

WIND AND TIDES

The mean lunar tide range is 3.5 ft. Due to unlimited fetches from the north to southeast quadrants, extremely rough surface waters as well as coastal flooding and beach erosion can occur during periods of strong on-shore winds, or as the result of ground swells generated by distant ocean storms.

SHORELINE CHARACTERISTICS

The immediate shoreline consists of sandy beaches. Along extensive sections of this shoreline, sand dunes and/or bulkheads are found behind the beach area. Fastland uses include, in order of predominance: recreational (False Cape State Park, Little Island City Park and Sandbridge City Park), residential (condominiums and apartments along the Resort Area, and single family residences along the North End, Croatan Beach and Sandbridge), military (Fort Story, Camp Pendleton and Dam Neck), commercial (high-rise hotels and restaurants along the Resort Area), and wildlife management (Back Bay National Wildlife Refuge).

INDIGENOUS FLORA AND FAUNA

Shoreline vegetation is sparse and consists mainly of highly tolerant beach grasses and low lying shrubs. The beach habitat is home to a wide variety of shore

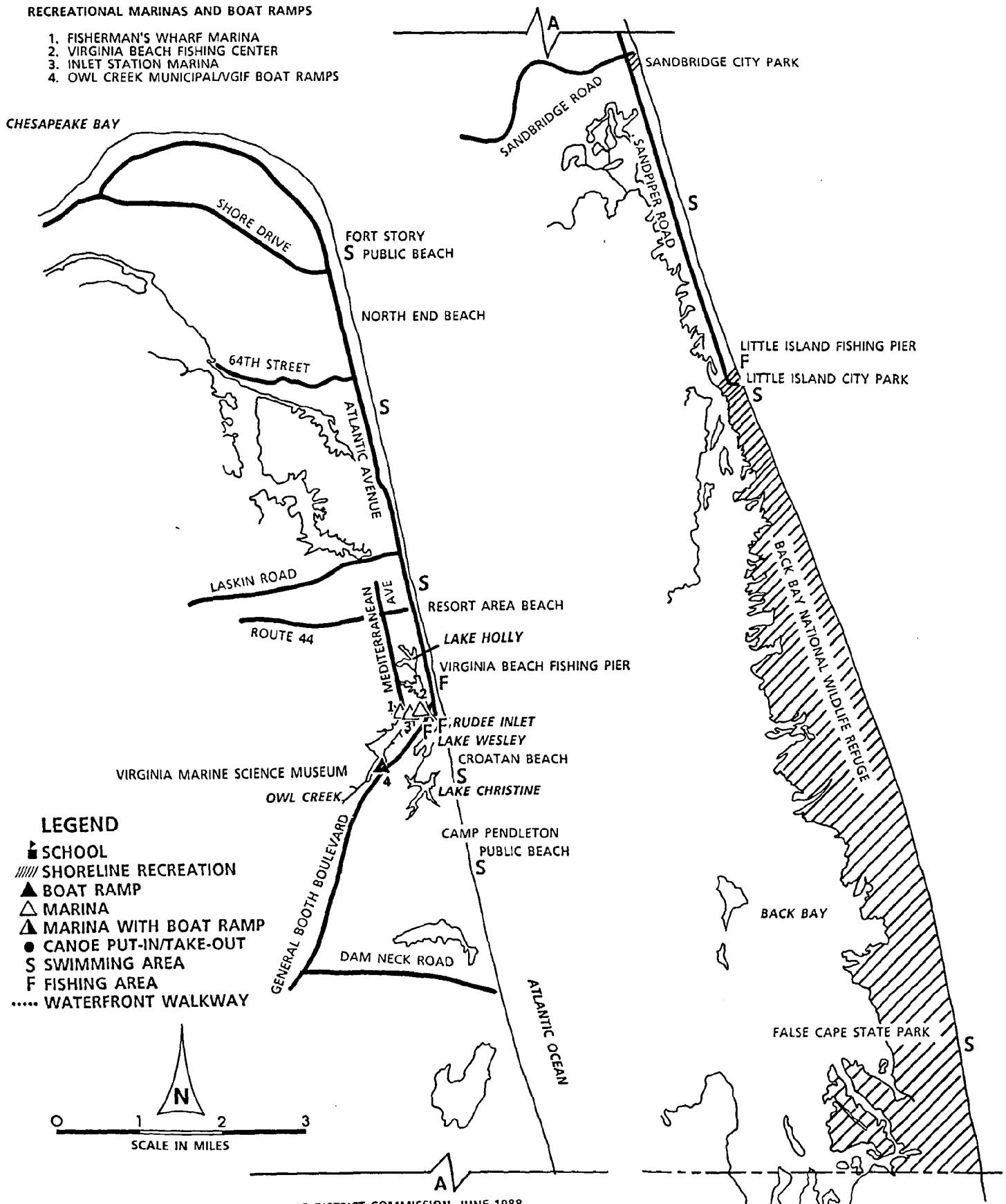


VIRGINIA BEACH RESORT AREA

FIGURE 2
ATLANTIC OCEAN AND RUDEE BASIN

RECREATIONAL MARINAS AND BOAT RAMPS

1. FISHERMAN'S WHARF MARINA
2. VIRGINIA BEACH FISHING CENTER
3. INLET STATION MARINA
4. OWL CREEK MUNICIPAL/VGIF BOAT RAMPS



birds and sea birds. Near shore waters support a diversity of marine finfish and shellfish, and seasonal visits by several species of marine mammals and sea turtles. Large concentrations of fish are attracted to the underwater structure of Chesapeake Light as well as to Tower Reef and Triangle Reef, two artificial fishing reefs.

APPROPRIATE RECREATIONAL ACTIVITIES

Swimming, sunbathing, surfing, wind surfing, fishing (pier, surf and boat), power boating and sailing.

SWIMMING BEACHES

Eighteen miles of this 26 mile shoreline are open to the public for swimming. There are approximately 140 public access points along these beaches. Life guard protection and public facilities are found at Fort Story Public Beach, the Resort Area Beach, Croatan Beach, Camp Pendleton Public Beach, Sandbridge Beach Park and Little Island Beach Park. There are considerable stretches of beach where public swimming is permitted but which are virtually inaccessible due to a shortage of parking facilities, public easements from adjacent roads or passable roads to the beach. Surfing areas designated by the City of Virginia Beach include a 775 foot area on the north side of Little Island Park Pier, a 600 foot area at the south end of Croatan Beach, an 800 foot area immediately south of Rudee Inlet, and a 500 foot area immediately north of Rudee Inlet.

FISHING ACCESS

Access for boat fishing is possible from water access facilities located in the Chesapeake Bay system or the Rudee Basin. Head and charter boats, which depart from Little Creek, Lynnhaven and Rudee, provide additional fishing opportunities. Surf fishing is generally permitted along the eighteen miles of swimming beaches described above, and along an additional 4.3 miles of beach located in the Back Bay National Wildlife Refuge. Along some of the more heavily used swimming beaches, however, surf fishing is prohibited between 10:00 AM and 5:00 PM from Memorial Day to Labor Day. There are two fishing piers located along the Atlantic coastline, the 300 foot Little Island City Park pier in Sandbridge and the 372 foot Virginia Beach Fishing Pier at 15th Street in the resort area. Admission fees are charged at both piers.

POSSIBLE BOATING CONSTRAINTS

High waves, wind, fog, military exclusion zones and large ocean-going vessels.

RECREATIONAL MARINA SLIPS AND BOAT RAMPS

None

PUBLICLY ACCESSIBLE CANOE PUT-IN/TAKE-OUT POINTS

None - the use of canoes and other small craft is not recommended.

RUDEE BASIN

LOCATION AND DESCRIPTION

The Rudee Basin is shown in Figure 2. Located in Virginia Beach, the basin is bounded by the Virginia Beach Resort Area to the north, and the U.S. Navy's Dam Neck facility and the State's Camp Pendleton to the south. The basin consists of several navigable, tidal water bodies that were formed by the dredging of Owl Creek in the 1950s and 1960s, and two non-tidal ocean lakes, Lake Holly and Lake Christine. These ocean lakes were once tidal bays with inlets to the ocean. Over time, shoaling filled these inlets and the tidal bays became fresh water lakes. This basin offers the only inlet with direct access to the Atlantic Ocean in Southeastern Virginia.

TRIBUTARIES AND RELATED WATER BODIES

1. Rudee Inlet
2. Lake Rudee
3. Lake Wesley
4. Owl Creek
5. Lake Christine
6. Lake Holly



RUDEE BASIN, LOOKING SOUTH

SIZE

Lake Rudee: 110 acres

Lake Wesley: 30 acres

Owl Creek: approximately 25 acres

Lake Christine: 14 acres

Lake Holly: 42 acres

DEPTH

Depths in tidal areas generally range from 3-15 feet (MLW) with 7-10 feet (MLW) COE project depths in dredged channels. Because portions of Lake Rudee, Lake Wesley and Owl Creek were once used as borrow areas for ocean beach replenishment, depths of 30-40 feet are found in some locations.

WIND AND TIDES

The mean lunar tide range in Lake Rudee, Lake Wesley and Owl Creek is 3.4 feet. Surges from strong easterly winds may augment the lunar tide and cause flooding. The two ocean lakes (Lake Holly and Lake Christine) are unaffected by lunar tides. There are no significant fetches or wind conditions in the Rudee Basin.

SHORELINE CHARACTERISTICS

Substantial sections of the shoreline are artificially stabilized (bulkheads and riprap). Other types of shoreline, found primarily in the upstream areas of the basin, include creek marsh and fringe marsh. Upland uses include, in order of predominance: residential (single family residences in the Shadowlawn, Rudee Heights, Croatan Beach areas, and condominiums and apartments along the south shore of Lake Rudee and on Lake Holly), unmanaged woodland, recreational (fishing areas at Rudee Inlet and the City boat ramps, and the Wildwater Rapids Amusement Park on Owl Creek), commercial (marinas and restaurants on the north shore of Lake Rudee), military installations (Camp Pendleton and Dam Neck on the south shore of Lake Christine) and institutional (the Virginia Marine Science Museum and the City erosion control facility on Owl Creek).

INDIGENOUS FLORA AND FAUNA

Vegetation along the shorelines of the tidal water bodies consists primarily of marsh grasses. The marsh habitat supports a variety of wading birds and waterfowl. The tidal waters, particularly the downstream areas, support a diversity of marine finfish and shellfish, especially blue crabs. The two non-tidal ocean lakes are now freshwater habitats, but are relatively unproductive because of their highly developed shorelines and because they have not yet evolved into true freshwater ecosystems.

APPROPRIATE RECREATIONAL ACTIVITIES

Fishing (boat and shore) and power boating.

SWIMMING BEACHES

None

FISHING ACCESS

Access for boat fishing is possible from the marinas on Lake Rudee and from the Owl Creek municipal boat ramps. Shoreline open to the public for fishing includes an area along the north side of Rudee Inlet from the Lighthouse Restaurant to the General Booth Boulevard Bridge, an area near the southeastern end of Lake Wesley off of Virginia Dare Drive, and a privately operated fishing concession directly across from Rudee Inlet.

POSSIBLE BOATING CONSTRAINTS

Ocean swells entering Rudee Inlet, shoaling within the inlet, a 29 foot vertical clearance and a limited horizontal clearance under the General Booth Boulevard Bridge, heavy small boat traffic.

RECREATIONAL MARINA SLIPS AND BOAT RAMPS

1. Lake Rudee
 - Fisherman's Wharf Marina, 110 slips (commercial).
 - Virginia Beach Fishing Center, 30 slips (commercial).
 - Inlet Station Marina, 40 slips (commercial).
 - Harbor Point Condominiums, 67 slips (private).
2. Owl Creek
 - Owl Creek Municipal/VGIF Boat Ramps, 3 ramps (public).

PUBLICLY ACCESSIBLE CANOE PUT-IN/TAKE-OUT POINTS

See boat ramps listed above.

CHESAPEAKE BAY, SOUTH SHORE VICINITY

LOCATION AND DESCRIPTION

The Chesapeake Bay (south shore vicinity) is shown in Figure 3. Located off Norfolk and Virginia Beach from Cape Henry to the Hampton Roads Bridge-Tunnel, this area is the southern-most extent of the Chesapeake Bay.

TRIBUTARIES AND RELATED WATER BODIES

1. Lynnhaven River System (see page 14)
2. Little Creek System (see page 20)

SIZE

Approximately 18.7 miles of shoreline, and approximately 25,000 acres of water within three miles of shore.

DEPTH

N/A

WIND AND TIDES

The mean lunar tide range is 2.0-2.8 feet depending on location. Due to unlimited fetches to the north and northeast, extremely rough surface waters as well as coastal flooding and erosion can occur during periods of strong winds from these directions.

SHORELINE CHARACTERISTICS

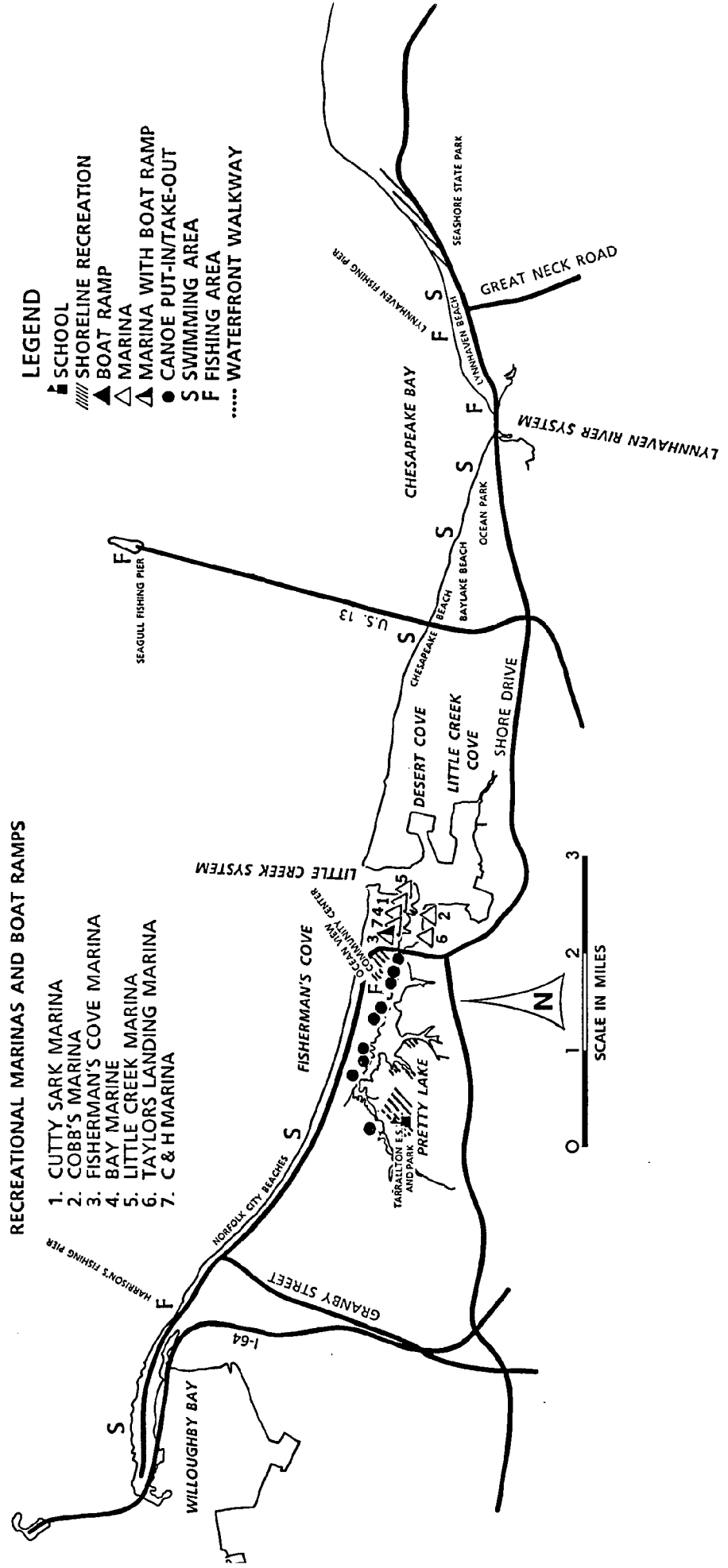
The immediate shoreline consists of sandy beaches. Along portions of this shoreline, sand dunes and/or bulkheads are found behind the beach area. Fastland uses include, in order of predominance: residential (condominiums and single family homes along Lynnhaven Shores, Ocean View and Willoughby Spit), military (Fort Story and Little Creek Amphibious Base), recreational (Seashore State Park and Norfolk City beach facilities) and commercial (hotels and restaurants along Lynnhaven Shores and Ocean View).

INDIGENOUS FLORA AND FAUNA

Shoreline vegetation is sparse and consists mainly of highly tolerant beach grasses and low lying shrubs. The beach habitat is home to a wide variety of shore birds and sea birds. The bay habitat supports a diversity of marine finfish. Large concentrations of fish are attracted to the underwater structures of the Chesapeake



FIGURE 3
CHESAPEAKE BAY AND LITTLE CREEK SYSTEM



Bay Bridge-Tunnel, the Hampton Roads Bridge-Tunnel, and to artificial reefs placed in the Bay to provide fish habitat. These waters are also abundant in shellfish, especially clams and blue crabs. Due to its proximity to the Atlantic Ocean, the Bay's blue crabs spawn in this area each spring. Because of water quality problems in the Little Creek System, an area near the mouth of Little Creek has been closed to shellfish harvesting. This area of the Bay is frequented by at least one species of migratory marine mammal (Bottle Nose Dolphin) and several species of marine turtles.

APPROPRIATE RECREATIONAL ACTIVITIES

Swimming, sunbathing, fishing (pier, surf and boat), wind surfing, power boating and sailing.

SWIMMING BEACHES

Twelve miles of the 18.7 mile shoreline are open to the public for swimming. There are 78 public access points along these beaches. The City of Norfolk operates three "controlled" public beaches (Sarah Constance Beach, Community Beach and City Beach) which are patrolled in-season by life guards and offer parking areas, restrooms and picnic areas. There are, however, considerable stretches of swimming beach that are without convenient access or have pedestrian access but are lacking adequate parking facilities. Another constraint to beach use is the presence of large numbers of jellyfish during the months of July and August when water temperatures are most conducive to swimming.

FISHING ACCESS

Access for boat fishing is possible from water access facilities located along the numerous tributaries that comprise the Chesapeake Bay System. Head and charter boats, which depart from Little Creek and Lynnhaven provide additional fishing opportunities. Surf fishing is permitted except in designated swimming areas. There are three fishing piers located along the south shore of the Bay. These include: the 300 foot Lynnhaven Fishing Pier located just east of Lynnhaven Inlet in Virginia Beach, the 500 foot Ocean View Park Fishing Pier located at the site of the abandoned Ocean View Amusement Park in Norfolk (this pier is closed while the City of Norfolk solicits proposals for its renovation), and the 1,600 foot Harrison's Fishing Pier located at 4th View Street in Norfolk. Admission fees are charged at Lynnhaven and Harrison's piers. A fourth pier, the 652 foot Seagull Fishing Pier, extends from the Chesapeake Bay Bridge-Tunnel's South Island. Admission to this pier is free, but a one-way toll is charged for use of the Bridge-Tunnel.

POSSIBLE BOATING CONSTRAINTS

High waves, wind, fog, shifting shoals and channels, strong tidal currents, military exclusion zones and large ocean-going vessels.

RECREATIONAL MARINA SLIPS AND BOAT RAMPS

None

PUBLICLY ACCESSIBLE CANOE PUT-IN/TAKE-OUT POINTS

None - the use of canoes and other small self-propelled craft is not recommended in the open bay waters.

LYNNHAVEN RIVER SYSTEM

LOCATION AND DESCRIPTION

The Lynnhaven River System is shown in Figure 4. Located in Virginia Beach, this system is roughly bounded by the Chesapeake Bay to the north, the Atlantic Ocean to the east, the Virginia Beach Toll Road to the south, and Independence Boulevard to the west. The system is a tributary to the southern end of the Chesapeake Bay and consists of several downstream bays, two upstream branches and numerous minor tributaries. The Eastern Branch and London Bridge Creek provide access to West Neck Creek which is the first officially designated segment of the Virginia Beach Scenic Waterway System.

TRIBUTARIES AND RELATED WATER BODIES

1. Lynnhaven Bay
 - Dix Creek
 - Keeling Cove
2. Western Branch
 - Pleasure House Creek
 - Thalia Creek
 - Buchanan Creek
3. Eastern Branch
 - Pinetree Branch
 - Wolfsnare Creek
 - London Bridge Creek
 - Lynnhaven Industrial Park - Canal # 2 (under construction)
4. Long Creek/Broad Bay/Linkhorn Bay
 - Mill Dam Creek
 - Crystal Lake
 - Little Neck Creek
 - Great Neck Creek
5. Lake Joyce



SIZE

Western Branch

Length: approximately 6.5 miles
Area: approximately 1,000 acres

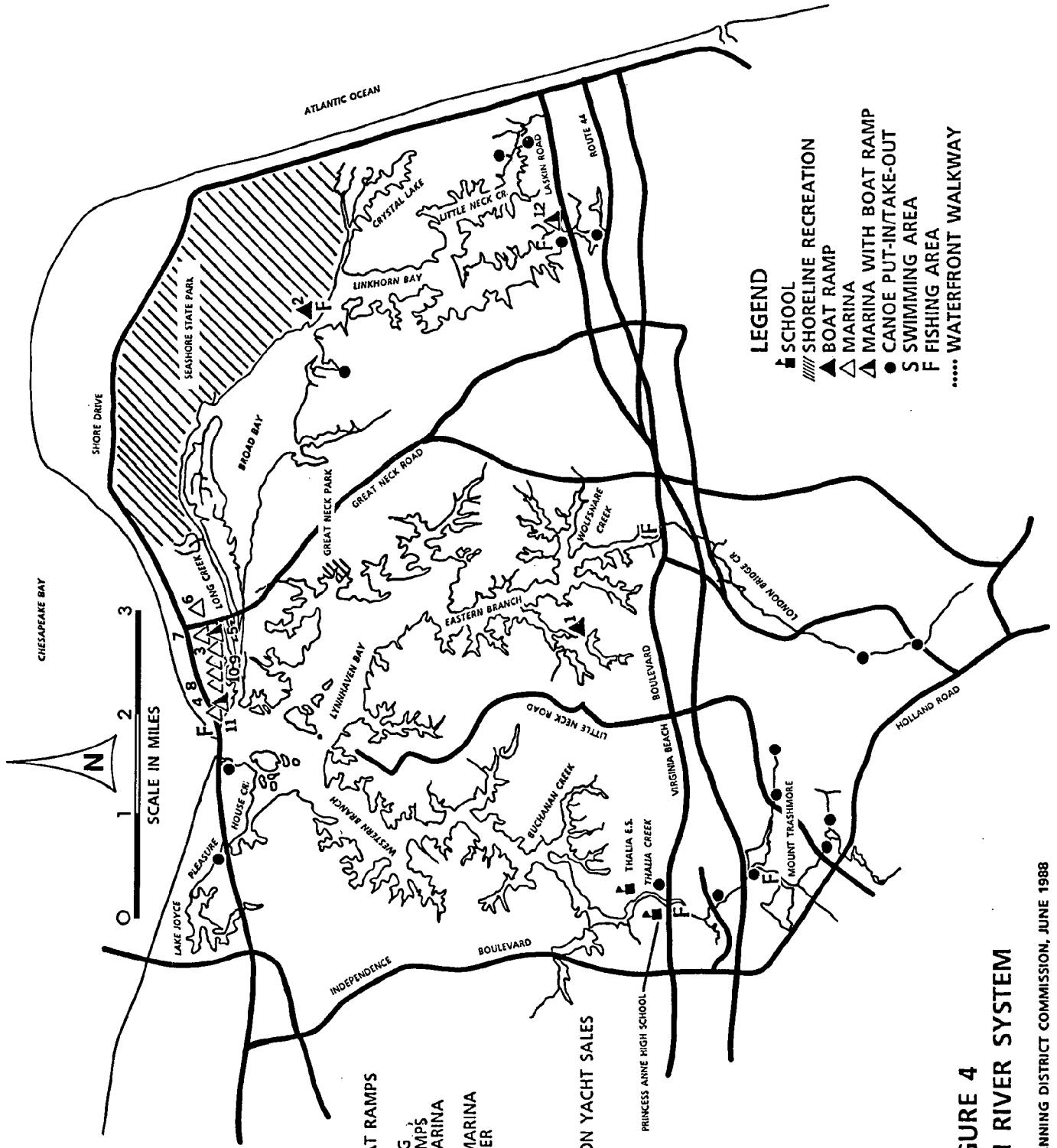


FIGURE 4
LYNNHAVEN RIVER SYSTEM

Eastern Branch

Length: approximately 6.0 miles
Area: approximately 1,900 acres

Long Creek/Broad Bay/Linkhorn Bay

Length: approximately 9.0 miles
Area: approximately 1,500 acres

DEPTH

2-10 ft. (MLW), 6-12 feet (MLW) in dredged channels.

WIND AND TIDES

The mean lunar tide range is 0.8-2.0 feet depending on location. Surges from strong easterly or northerly winds will augment the lunar tide and may cause coastal flooding. Although there are no significant fetches, the open waters of Lynnhaven Bay, Broad Bay and Linkhorn Bay can become rough for small, non-motorized craft (such as canoes) during periods of strong winds.

SHORELINE CHARACTERISTICS

The predominant shoreline types are fringe marsh and artificially stabilized shoreline (riprap, bulkhead or combination riprap/bulkhead). There are also small areas of beaches and embayed marsh. The vast majority of the upland (approximately 85%) is developed for residential use. Other upland uses include, in order of predominance: unmanaged woodland, recreational (Seashore State Park and Great Neck Park) and commercial (marinas mostly found along Long Creek and along the upper reaches of Linkhorn Bay and Little Neck Creek).

INDIGENOUS FLORA AND FAUNA

Shoreline vegetation consists primarily of marsh grasses. The marsh habitat supports a variety of wading birds and waterfowl. The Lynnhaven waters, especially the downstream areas, support a diversity of marine shellfish, especially oysters and blue crabs, and finfish. Due to water quality problems, however, the harvesting of oysters is prohibited in most of the system. Brackish water species of finfish can be found in the upstream areas of the tributaries. Throughout the system, numerous tributaries have been dammed to create drainage lakes for residential development. In many cases, these drainage lakes have evolved into relatively complex freshwater habitats.

APPROPRIATE RECREATIONAL ACTIVITIES

Fishing (boat, shore and bridge), power boating, water skiing and canoeing.

SWIMMING BEACHES

None

FISHING ACCESS

Access for boat fishing is possible from boat ramps, marinas and canoe put-in/take-out points found throughout the system. Due to the predominance of privately owned shoreline, opportunities for shore fishing are limited. Public access for shore fishing is possible along the Seashore State Park shoreline and along the beaches just inside of Lynnhaven Inlet. Bridge fishing is possible from the Virginia Beach Boulevard bridges over London Bridge Creek and Thalia Creek, and the Laskin Road bridge over the upper end of Linkhorn Bay.

POSSIBLE BOATING CONSTRAINTS:

Shallow water; occasional rough waters in Lynnhaven Bay, Broad Bay and Linkhorn Bay; strong currents (up to three knots) through The Narrows and Lynnhaven Inlet; a 40 foot bridge clearance under the Lesner Bridge; numerous wind surfers in the vicinity of Lynnhaven Inlet; submerged uncharted obstructions (pipes, abandoned duck blinds, fish traps and pilings); timber snags in narrower tributaries; numerous crab traps; and possible disorientation due to an extensive network of coves, islands and creeks.

RECREATIONAL MARINA SLIPS AND BOAT RAMPS

1. Eastern Branch
 - Watergate Lane Landing, one ramp (private - open to the public).
 - Lynnhaven Landing, one ramp (private).
2. Long Creek/Broad Bay/Linkhorn Bay
 - Seashore State Park, five ramps (public).
 - Lynnhaven Municipal Marina, 50 slips (public).
 - Bubba's Marina, one ramp, eight slips (commercial).
 - Lynnhaven Waterway Marina, one ramp, 230 slips (commercial).
 - Lynnhaven Marine Center, 650 dry storage berths (commercial).
 - Long Creek Marina, 42 slips (commercial).
 - Anchor Inn, twenty slips (commercial).
 - D & M Marina, twenty slips (commercial).
 - Winston Athey, ten slips (commercial).

- Henry's Fish Dock, five slips (commercial).
- Hilltop Inn and Dominion Yacht Sales, one ramp, 51 slips (commercial).
- Ferebee Drive Boat Ramp, one ramp (private).
- Cavalier Golf and Yacht Club, one ramp, 66 slips (private).
- G.C. Marshall, twelve slips (private).
- Five 2 Piers, 43 slips (private).
- Cove Point Condominiums, 60 slips (private).
- Link Harbor Condominiums, eight slips (private).
- Lynnhaven Colony Community Boat Docks, 96 slips (private).
- Alanton Civic League, eight slips (private).

PUBLICLY ACCESSIBLE CANOE PUT-IN/TAKE-OUT POINTS

1. Western Branch

- Lesner Bridge (City sand disposal site), informal access (parking - public lot).
- Shore Drive (Pleasure House Creek), informal access (parking - twelve to eighteen).
- Virginia Beach Boulevard (Thalia Creek), informal access (no parking).
- Bonney Road (Thalia Creek), informal access (no parking).
- Mount Trashmore City Park (Thalia Creek), informal access (parking - City Park lot).
- Plaza Trail (northern branch of Thalia Creek from Mount Trashmore), informal access (parking - none).
- Presidential Boulevard (northern branch of Thalia Creek from Mount Trashmore), informal access (parking - on street).
- Plaza Trail (southern branch of Thalia Creek from Mount Trashmore), informal access (parking - none).
- Windsor Oaks Boulevard (southern branch of Thalia Creek), informal access (parking - on street).

2. Eastern Branch

- Boat ramps listed above.
- Bow Creek Boulevard (London Bridge Creek), informal access (parking - on street).
- Lynnhaven Parkway (London Bridge Creek, south), informal access (parking - none).

3. Long Creek/Broad Bay/Linkhorn Bay

- Boat ramps listed above.
- Alanton Drive, informal access (parking - none).
- Laskin Road Bridge, informal access (parking - none).
- Old Virginia Beach Boulevard, informal access (parking - on street).
- Laskin Road (Little Neck Creek), informal access (parking - none).
- Pinewood Road (five coves along road), informal access (parking - none).

LITTLE CREEK SYSTEM

LOCATION AND DESCRIPTION

The Little Creek System is shown in Figure 3. Located in Norfolk and Virginia Beach, this system is roughly bounded by the Chesapeake Bay to the north, Shore Drive and Little Creek Road to the south, Chesapeake Boulevard to the west, and Northampton Boulevard to the east. This system is comprised of tidal and non-tidal waters. The tidal waters are tributary to the Chesapeake Bay and consist of the Creek itself and several associated coves. The non-tidal waters consist of two ocean lakes, the 36 acre Bradford Lake and the sixteen acre Chubb Lake. These lakes were once tidal bays with inlets to the Bay. Over time, shoaling filled these inlets and the tidal bays became fresh water lakes.

TRIBUTARIES AND RELATED WATER BODIES

1. Fisherman's Cove
2. Little Creek Cove
3. Desert Cove
4. Lake Bradford
5. Chubb Lake



MARINAS IN LITTLE CREEK

SIZE

Length: approximately 3.5 miles (from the Chesapeake Bay to the upper reaches of the creek in Norfolk)

Area: approximately 2,200 acres

DEPTH

COE project depths of 20 feet (MLW) in the main channel and Little Creek Cove, and 8-12 feet (MLW) in Desert Cove and Fisherman's Cove.

WIND AND TIDES

The mean lunar tide range is approximately 2.6 feet. Surges from strong easterly and northerly winds will augment lunar tides and may cause flooding. The two ocean lakes are unaffected by lunar tides. There are no significant fetches in the system, nor are surface waters significantly affected by wind conditions.

SHORELINE CHARACTERISTICS

The primary shoreline types found in this system are marsh (fringe and embayed) and artificially stabilized (bulkheads and riprap). Upland uses include, in order of predominance: residential (along the upper reaches of the Creek in Norfolk), military (U.S. Navy Little Creek Amphibious Base and the Little Creek Coast Guard Station), commercial (marinas along Fisherman's Cove), recreational (Tarrallton Community Park and Ocean View Community Center), and industrial (the Eastern Shore Railroad docks and Jonathan Corporation Shipyard).

INDIGENOUS FLORA AND FAUNA

Vegetation along undeveloped sections of shoreline consists primarily of marsh grasses. The marsh habitat supports a variety of wading birds and waterfowl. The tidal waters support a diversity of marine shellfish, especially oysters and blue crabs, and finfish. Due to water quality problems, however, the harvesting of oysters and clams is prohibited. The two ocean lakes are now freshwater habitats, but are relatively unproductive because of their highly developed shorelines and because they have not evolved into true freshwater ecosystems.

APPROPRIATE RECREATIONAL ACTIVITIES

Fishing (boat and shore), power boating, water skiing and canoeing.

SWIMMING BEACHES

None

FISHING ACCESS

Access for boat fishing is possible from the marinas and ramps along Fisherman's Cove. Shore fishing is possible from several locations along the north shore of the Creek between 18th Bay Street and 22nd Bay Street including the shoreline fronting the Ocean View Community Center.

POSSIBLE BOATING CONSTRAINTS

Heavy small boat traffic, military and commercial vessels, low vertical clearance under the Shore Drive Bridge, shallow water in the upper reaches of the Creek.

RECREATIONAL MARINA SLIPS AND BOAT RAMPS

- Cutty Sark Marina, 88 slips (commercial).
- Cobb's Marina, 99 slips, (commercial).
- Fisherman's Cove Marina, one ramp, 70 slips, (commercial).

- Bay Marine, 87 slips (commercial).
- Little Creek Marina, 130 slips (commercial).
- Taylors Landing Marina, 230 slips (commercial).
- C & H Marina, 50 slips (commercial).
- Moore's Point Marina, 309 slips, under construction (private).
- Little Creek Yacht Club, 130 slips (private).
- USN Little Creek Amphibious Base, four ramps, 75 slips, (private - for military personnel only).

PUBLICLY ACCESSIBLE CANOE PUT-IN/TAKE-OUT POINTS

- Boat ramps listed above.
- Shoreline between 22nd Bay Street and 21st Bay Street, informal access, (parking - 15).
- Ocean View Community Center, informal access (parking - community center lot).
- Shoreline between 19th Bay Street and 18th Bay Street, informal access (parking - 20).
- 16th Bay Street, informal access (parking - on street).
- 15th Bay Street, informal access (parking - on street).
- 6th Bay Street, informal access (parking - none).
- 5th Bay Street, informal access (parking - none).
- 3rd Bay Street, informal access (parking - none).
- Lynn River Road, informal access (parking - none).

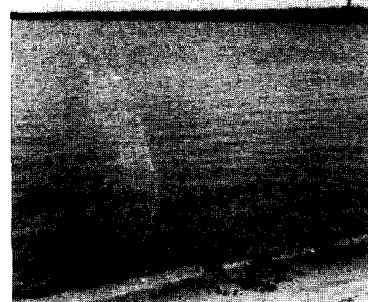
HAMPTON ROADS, SOUTH SHORE VICINITY

LOCATION AND DESCRIPTION

Hampton Roads (south shore vicinity) is shown in Figure 5. This water body is located off the Cities of Norfolk, Portsmouth and Suffolk, and Isle of Wight County from the Hampton Roads Bridge-Tunnel to the James River Bridge. Hampton Roads is defined by the confluence of the Elizabeth River, the James River and the Chesapeake Bay.

TRIBUTARIES AND RELATED WATER BODIES

1. Willoughby Bay (see page 27)
2. Elizabeth River System (see page 29)
3. Hoffer Creek
4. Streeter Creek
5. Nansemond River System (see page 39)
6. Chuckatuck Creek System (see page 43)
7. Cooper Creek



HAMPTON ROADS AT PIG POINT

SIZE

Approximately thirteen miles of shoreline, and approximately 16,000 acres of water within corporate boundaries of Southeastern Virginia localities.

DEPTH

N/A

WIND AND TIDES

The mean lunar tide range is 2.5-2.8 feet depending on location. Fetches along this shoreline vary from five to nine miles from the west clockwise to the southeast. Strong winds from any of these directions may expose certain areas to rough seas and cause coastal flooding and erosion.

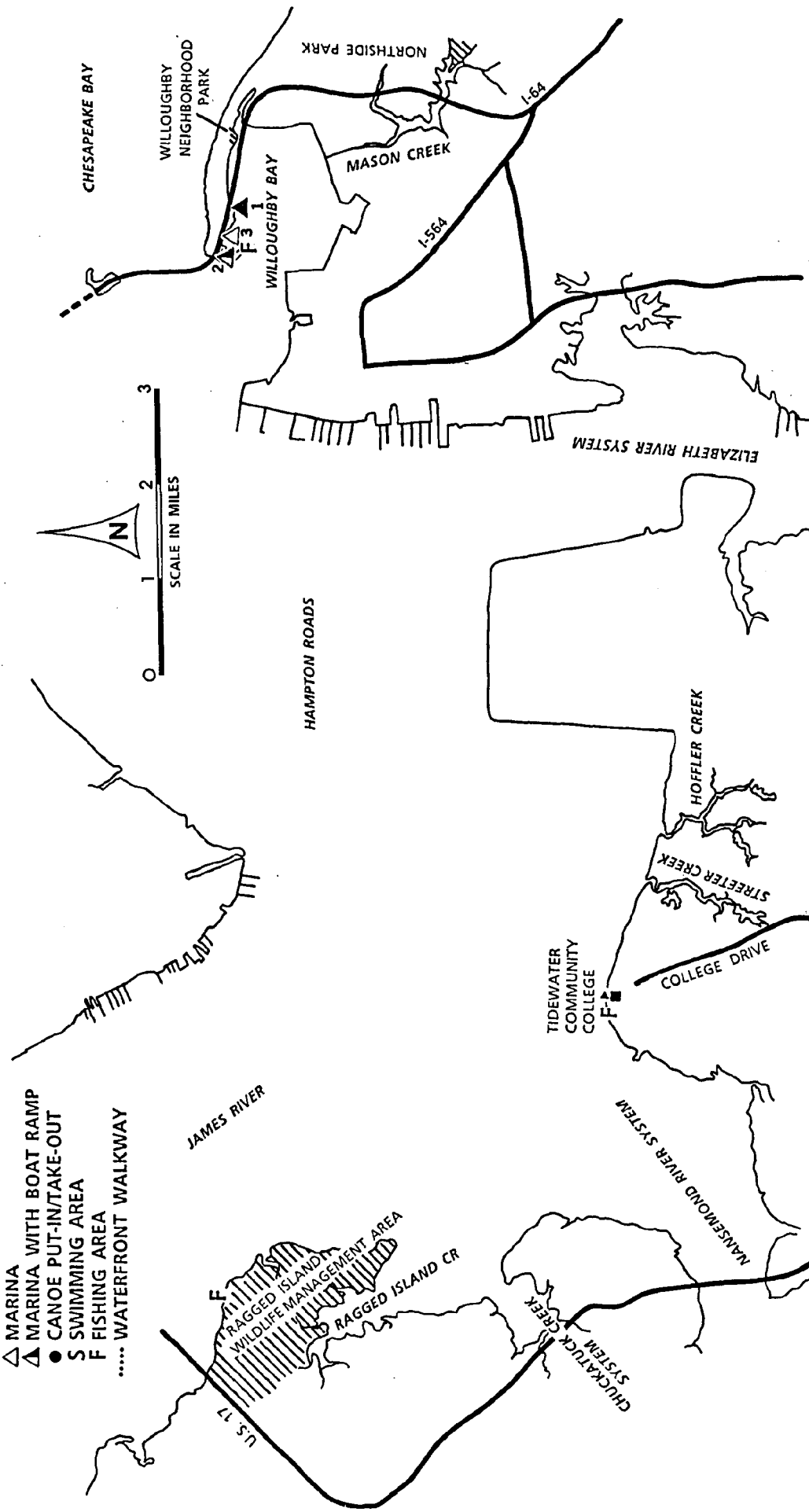
SHORELINE CHARACTERISTICS

The immediate shoreline is artificially stabilized (bulkhead and riprap), or consists of beaches, tidal flats, fringe marshes or extensive marshes. Along certain sections of this shoreline, bluffs of 20-25 feet are found behind beach areas. Upland

LEGEND

- ▲ SCHOOL
- //// SHORELINE RECREATION
- ▲ BOAT RAMP
- △ MARINA
- △ MARINA WITH BOAT RAMP
- CANOE PUT-IN/TAKE-OUT
- S SWIMMING AREA
- F FISHING AREA
- WATERFRONT WALKWAY

FIGURE 5
HAMPTON ROADS AND WILLOUGHBY BAY



RECREATIONAL MARINAS AND BOAT RAMPS

1. WILLOUGHBY VGI F LANDING
2. WILLOUGHBY BAY MARINA
3. WILLOUGHBY HARBOR MARINA

uses include, in order of predominance: military (Norfolk Naval Base), open undeveloped (Craney Island Disposal Area), residential (single family residences along River Shore, Respass Beach and Eclipse), industrial (industrial dock facilities), institutional (Tidewater Community College) and wildlife management (Ragged Island Wildlife Management Area).

INDIGENOUS FLORA AND FAUNA

Depending on the type of shoreline, vegetation is either nonexistent (along the Naval Base and Craney Island), or consists of various beach and/or marsh grasses. The beach and marsh habitats support a number of species of shorebirds, wading birds and waterfowl. The waters of Hampton Roads support a diversity of marine finfish. The underwater structures of the Hampton Roads Bridge-Tunnel and the James River Bridge attract large concentrations of fish. These waters are also abundant in shellfish, especially oysters and blue crabs.

APPROPRIATE RECREATIONAL ACTIVITIES

Fishing (boat, pier and shore), power boating and sailing.

SWIMMING BEACHES

Swimming is limited because of access restrictions (there are no publicly designated beaches) and undesirable shoreline characteristics. In general, most beaches are unsuitable for swimming because they are too narrow, are vegetated, or are fronted by fringe marshes or tidal flats. Also, during the months of July and August, when the water temperature is most conducive to swimming, the presence of large numbers of jellyfish makes swimming undesirable.

FISHING ACCESS

Access for boat fishing is possible from water access facilities located along the tributaries that flow into Hampton Roads. Shoreline fishing is limited due to a lack of public access points. The only areas with public access for fishing are the Ragged Island Wildlife Management Area (although much of this shoreline is only accessible by boat) and Tidewater Community College. The college owns and maintains a public fishing pier which is approximately 500 feet in length.

POSSIBLE BOATING CONSTRAINTS

High waves, wind, fog, shifting shoals and channels, submerged uncharted fish trap structures, military exclusion zones and large commercial vessels.

RECREATIONAL MARINA SLIPS AND BOAT RAMPS

None

PUBLICLY ACCESSIBLE CANOE PUT-IN/TAKE-OUT POINTS

None - the use of canoes and other small craft is not recommended in the open waters of Hampton Roads.

WILLOUGHBY BAY

LOCATION AND DESCRIPTION

Willoughby Bay is shown in Figure 5. The Bay is located in Norfolk between the mainland and Willoughby Spit at the mouth of the Elizabeth River.

TRIBUTARIES AND RELATED WATER BODIES

1. Mason Creek (via underground aqueduct)
2. Boush Creek (via culvert)

SIZE

Length: 2.7 miles (east to west)

Width: 1.0 miles (north to south)

Area: approximately 1,600 acres

DEPTH

3-12 feet (MLW)

WIND AND TIDES

The mean lunar tide range is 2.5 feet. Surges from strong easterly or northerly winds will augment lunar tides and may cause coastal flooding. The only significant fetch is to the northwest. Also, due to bottom geometry and location of marinas, winds from the southeast present problems. Surface waters will become moderately rough during gales.

SHORELINE CHARACTERISTICS

About 85 percent of the immediate shoreline has been artificially stabilized (riprap and bulkhead). The remainder consists of a few natural beaches which front residences and have little recreation potential, several very small pocket and fringe marshes, and a 6.5 acre man-made marsh. Upland uses include, in order of predominance: military (two U.S. Navy installations, Norfolk Naval Base and Norfolk Naval Air Station), residential (single family residences and condominiums along the north shore of the Bay), commercial (marinas, a motel and a restaurant along the north shore of the Bay) and recreational (Willoughby City Boat Ramps and a small neighborhood park). Interstate 64, a four-lane divided highway, crosses over the north shore of the Bay.

INDIGENOUS FLORA AND FAUNA

Because the Bay shoreline is developed and stabilized it supports little in the way of marine flora and fauna. The Bay waters support a diversity of marine finfish



MARINAS IN WILLOUGHBY BAY

and shellfish, especially oysters, clams and blue crabs. Due to water quality problems, however, the harvesting of oysters and clams is prohibited.

APPROPRIATE RECREATIONAL ACTIVITIES

Fishing (boat, shore and pier), power boating and sailing.

SWIMMING BEACHES

None

FISHING ACCESS

Access for boat fishing is possible from marinas and boat ramps located along the north shore of the Bay. Due to the presence of the U.S. Navy installations, extensive areas in the southern portion of the Bay are closed to recreational boaters. Public access to the shoreline for fishing is possible at the Willoughby City Boat Ramps. Pier fishing is possible from a 400 foot pier owned and operated by Willoughby Bay Marina. An admission fee is charged at this pier.

POSSIBLE BOATING CONSTRAINTS

Heavy small boat traffic, crab pots, military exclusion zones and shoaling off the western end of Willoughby Spit.

RECREATIONAL MARINA SLIPS AND BOAT RAMPS

- Willoughby VGIF Landing, two ramps (public).
- Willoughby Bay Marina, four ramps, 55 slips, 300 dry storage berths (commercial).
- Willoughby Harbor Marina, 298 slips (commercial).
- Naval Air Station, two ramps (private - military personnel only).
- Naval Base, two ramps, 90 slips (private - military personnel only).

PUBLICLY ACCESSIBLE CANOE PUT-IN/TAKE-OUT POINTS

None - the use of canoes and other small, self-propelled craft is not recommended.

ELIZABETH RIVER SYSTEM

LOCATION AND DESCRIPTION

The Elizabeth River System is shown in Figures 6 through 9. Located in the Cities of Norfolk, Portsmouth, Chesapeake and Virginia Beach, this system is a tributary to the southern end of the Chesapeake Bay and is comprised of a main stem, three branches and numerous minor tributaries. The Main Stem and the Southern Branch are part of the Atlantic Intracoastal Waterway. The City of Chesapeake has designated Deep Creek, a tributary of the Southern Branch, as a component of the City's Scenic Waterway System.

TRIBUTARIES AND RELATED WATER BODIES

1. Main Stem

- Lafayette River
- Craney Island Creek
- Lake Kingman
- Scotts Creek
- Smith Creek (The Hague)

2. Western Branch

- Hull Creek
- Lilly Creek
- Baines Creek
- Sterns Creek
- Drum Point Creek
- Bailey Creek
- Goose Creek

3. Southern Branch

- Scuffletown Creek
- Jones Creek
- Gilligan Creek
- Paradise Creek
- St. Julian Creek
- Gilmerton Canal
- Milldam Creek
- Newton Creek
- Deep Creek
- Hodges Creek
- Mains Creek
- New Mill Creek



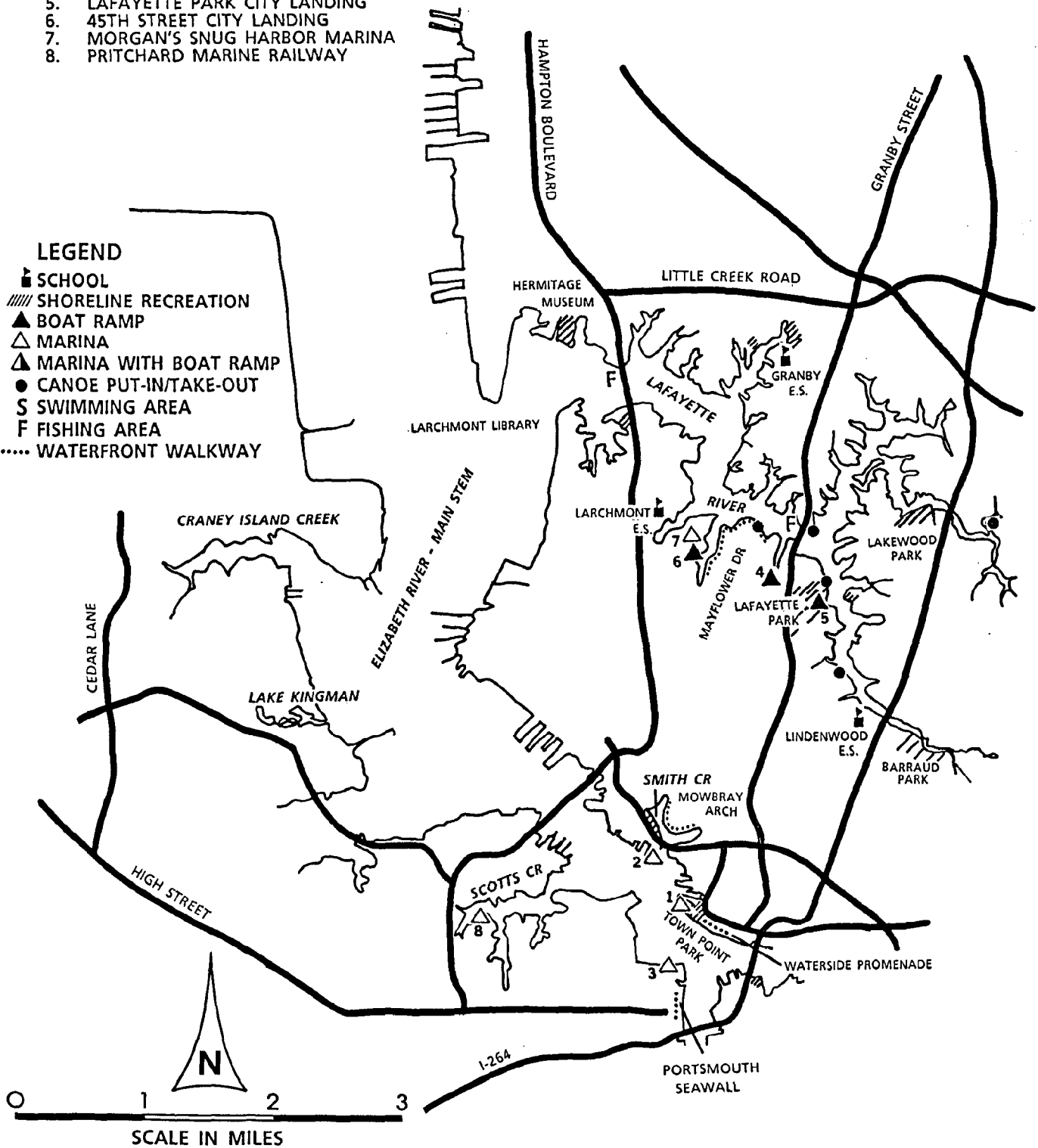
MAIN STEM

FIGURE 6
ELIZABETH RIVER - MAIN STEM

RECREATIONAL MARINAS AND BOAT RAMPS

1. WATERSIDE MUNICIPAL MARINA
2. ELIZABETH RIVER BOAT WORKS
3. TIDEWATER YACHT MARINA
4. HAVEN CREEK CITY LANDING
5. LAFAYETTE PARK CITY LANDING
6. 45TH STREET CITY LANDING
7. MORGAN'S SNUG HARBOR MARINA
8. PRITCHARD MARINE RAILWAY

- LEGEND**
- SCHOOL
 - //// SHORELINE RECREATION
 - ▲ BOAT RAMP
 - △ MARINA
 - ▲△ MARINA WITH BOAT RAMP
 - CANOE PUT-IN/TAKE-OUT
 - S SWIMMING AREA
 - F FISHING AREA
 - WATERFRONT WALKWAY



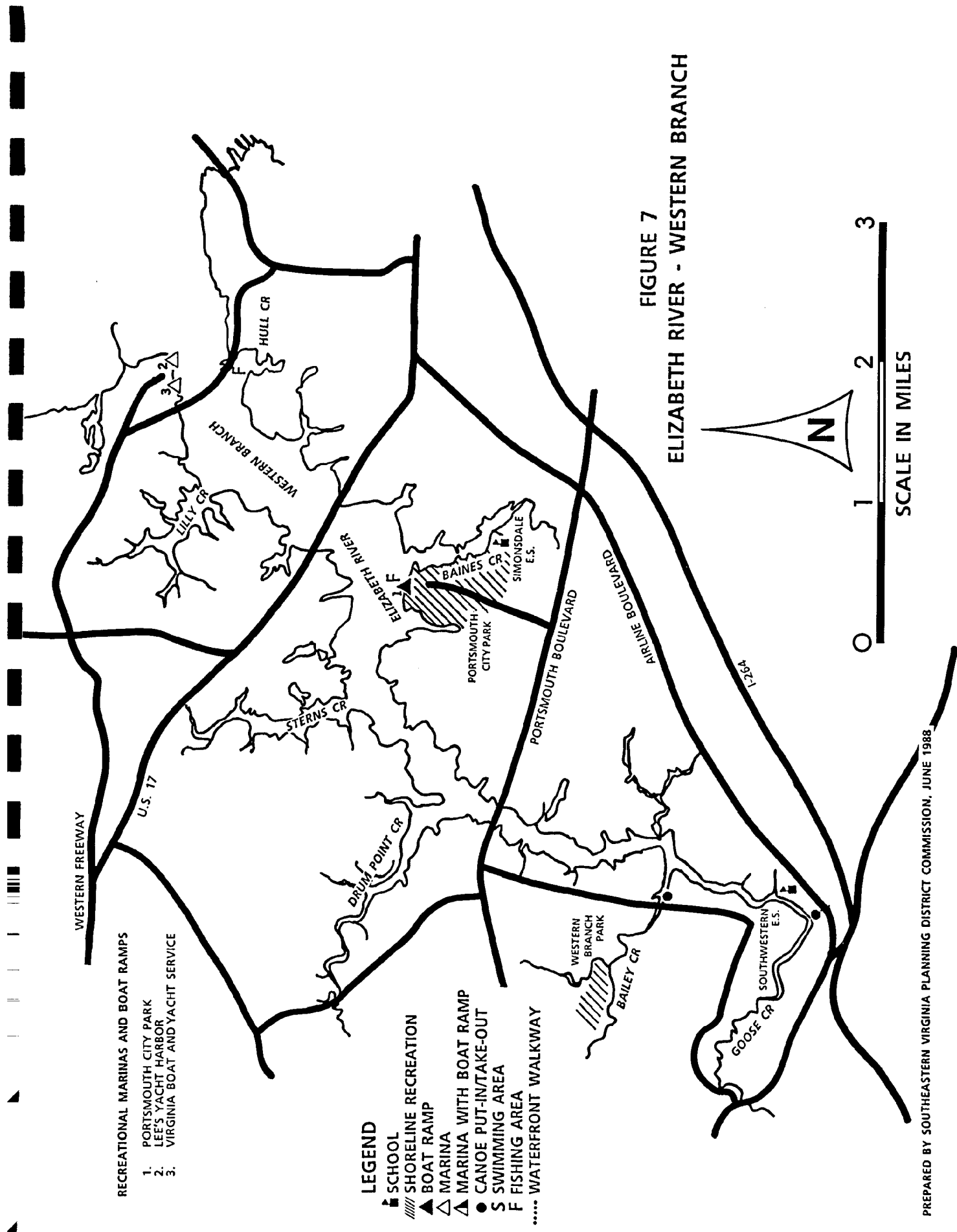


FIGURE 8
ELIZABETH RIVER -
SOUTHERN BRANCH

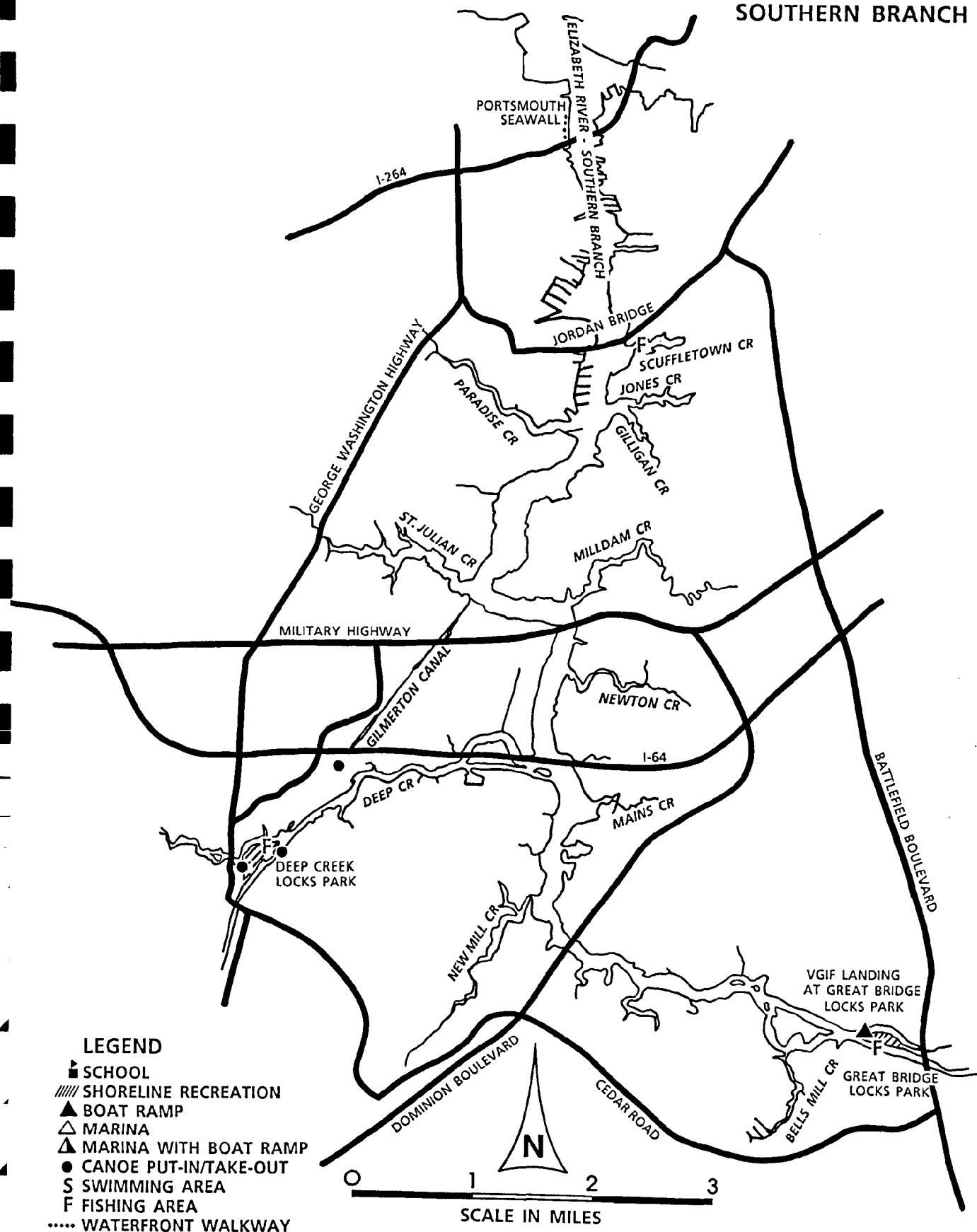
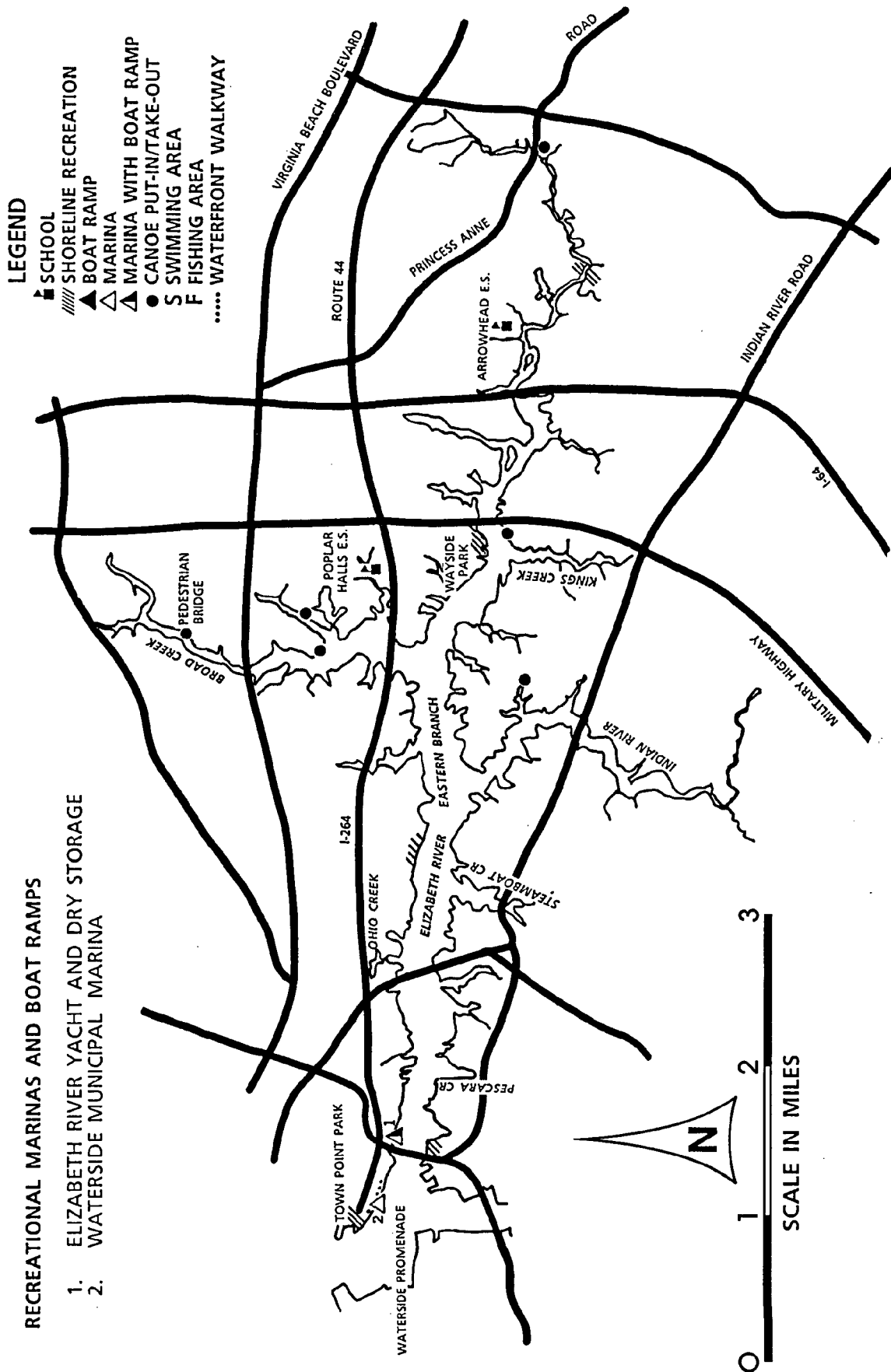


FIGURE 9
ELIZABETH RIVER - EASTERN BRANCH



- Bells Mill Creek
- Albemarle and Chesapeake Canal

4. Eastern Branch

- Spotico Creek
- Pescara Creek
- Ohio Creek
- Steamboat Creek
- Indian River
- Broad Creek
- Kings Creek

SIZE

Main Stem: approximately 6.5 miles long

Western Branch: approximately 7 miles long

Southern Branch: approximately 10.5 miles long

Eastern Branch: approximately 8 miles long

The water area of the entire system is approximately 17,900 acres.

DEPTH

Main Stem: 2-15 feet (MLW), COE project depth of 30-45 feet (MLW) in the Norfolk Harbor Channel. A proposed COE project would deepen the Norfolk Harbor Channel to 55 feet (MLW) from the mouth of the River to Lamberts Point.

Western Branch: 2-6 feet (MLW), 9-18 feet (MLW) in dredged channel.

Southern Branch: 1-4 feet (MLW), COE project depth of 12-40 feet (MLW) in dredged channels. A proposed COE project would deepen the Southern Branch channel from 40 feet (MLW) to 45 feet (MLW) between the confluence with the Eastern Branch and the Belt Line Railroad Bridge, and from 35 feet (MLW) to 40 feet (MLW) between the same railroad bridge and the Route 460/Military Highway crossing.

Eastern Branch: 1-5 feet (MLW), COE project depth of 10-25 feet (MLW) in dredged channel. A proposed COE project would deepen the Eastern Branch channel from 25 feet (MLW) to 35 feet (MLW) between the confluence with the Southern Branch and the Campostella Bridge.

WIND AND TIDES

Mean tidal range is 2.6-2.8 feet depending on location. Surges from strong easterly and northerly winds will augment lunar tides and may cause flooding. The only significant fetches affect the Main Stem and are 7-9 miles to the north and northwest. Strong winds from these directions will cause moderately rough conditions in open waters.

SHORELINE CHARACTERISTICS

The primary shoreline types are marsh (fringe and embayed) and artificially stabilized (bulkhead and riprap). Artificially stabilized shoreline predominates along the urbanized, downstream areas, while marshes are found mostly along the less-developed upstream areas. Upland uses include, in order of predominance: residential (mostly along the upper reaches of the Western Branch, Eastern Branch and Lafayette River), industrial (port facilities, shipyards, manufacturing plants, and energy generation, storage and transport facilities found mostly along the Main Stem, Southern Branch and Eastern Branch), agriculture and unmanaged open space (mostly along the upper reaches and the tributaries of the Southern Branch and Western Branch), military (Norfolk Naval Base, U.S. Naval Shipyard, U.S. Coast Guard Station, U.S. Naval Supply Center, St. Julian's Annex Naval Depot, Portsmouth Naval Hospital), recreational (Town Point Park, Lafayette Park, Lakewood Park, Barraud Park, Elizabeth Manor Country Club, Western Branch Park, Portsmouth City Park Deep Creek Locks Park, Great Bridge Locks Park), wildlife conservation (Izaak Walton Memorial Park), and commercial (Waterside and vicinity, Portside and vicinity).

INDIGENOUS FLORA AND FAUNA

Shoreline vegetation consists primarily of marsh grasses. The marsh habitat supports a variety of wading birds and waterfowl. The Elizabeth River System waters, especially the downstream areas, support a diversity of marine shellfish, especially oysters and blue crabs, and finfish. Due to water quality problems, however, harvesting of oysters is prohibited. Brackish water species of finfish and fur bearing mammals (mostly muskrats) can be found in the upstream portions of tributaries.

APPROPRIATE RECREATIONAL ACTIVITIES

Fishing (boat, shore and bridge) and power boating, and water skiing and canoeing in upper reaches of the system only.

SWIMMING BEACHES

None

FISHING ACCESS

Access for boat fishing is possible from marinas, boat ramps or canoe access points found along the shorelines of the main river branches and their tributaries. Shore fishing is difficult due to the lack of public access points and the presence of extensive marsh systems between the upland and the water. Shoreline open to the public for fishing can be found at Portsmouth City Park, Deep Creek Locks Park, Great Bridge Locks Park, an area adjacent to the south side of the West Norfolk Bridge, an area adjacent to the east side of the Jordan Bridge and an area adjacent to the ODU Sailing Club at the end of 49th Street in Norfolk. Bridge fishing is possible from platforms on the Granby Street and Hampton Boulevard bridges over the Lafayette River.

POSSIBLE BOATING CONSTRAINTS

Shallow water, commercial and military vessels, heavy small boat traffic, submerged uncharted obstructions (pipes and abandoned pilings), numerous crab pots, height limitations under a number of bridges and elevated pipelines, military exclusion zones, water quality problems for water skiing, and locks at Deep Creek and Great Bridge.

RECREATIONAL MARINA SLIPS AND BOAT RAMPS

1. Main Stem

- Waterside Municipal Marina, 52 slips (public).
- Elizabeth River Boat Works, 25 slips (commercial).
- Tidewater Yacht Marina, 340 slips (commercial).
- Freemason Harbor Marina, 35 slips (private).
- Norfolk Boat Club, two slips (private).
- Old Dominion University Landing, one ramp (private - university students and employees only).
- Portsmouth Naval Hospital, one ramp (private - military personnel only).

2. Main Stem - Lafayette River

- Haven Creek City Landing, one ramp (public).
- Lafayette Park City Landing, one ramp (public, but closed on weekends).
- 45th Street City Landing, one ramp, ten slips (public).

- Morgan's Snug Harbor Marina, 27 slips, (commercial).
 - Norfolk Yacht and Country Club, three ramps, 125 slips (private).
 - Tidewater Boat Club, 100 slips (private).
 - American Legion Post 60, 22 slips (private).
3. Main Stem - Scott's Creek
 - Pritchard Marine Railway, 24 slips (commercial).
 - Portsmouth Yacht Club, one ramp, twenty slips (private).
 4. Western Branch
 - Portsmouth City Park, four ramps (public).
 - Lee's Yacht Harbor, 95 slips (commercial).
 - Virginia Boat and Yacht Service, 56 slips (commercial).
 - Sandie Point Condominiums, twenty slips (private).
 - Elizabeth Landing Condominiums, six slips (private).
 - Cypress Cove Association, twenty slips (private).
 5. Southern Branch
 - VGIF Landing at Great Bridge Locks Park, two ramps (public).
 6. Eastern Branch
 - Causey Street City Landing, one ramp (public - closed, the City of Norfolk has proposed renovation and reopening).
 - Elizabeth River Yacht and Dry Storage, two ramps under construction, 150 slips under construction (commercial).

PUBLICLY ACCESSIBLE CANOE PUT-IN/TAKE-OUT POINTS

Due to the presence of large military and commercial vessels and potentially rough water, the use of canoes or other small craft is not recommended in the Main Stem, the Southern Branch or in the downstream waters of the Western Branch and Eastern Branch. Put-in/take-out points in areas that are suitable for canoeing are as follows:

1. Lafayette River - Upstream of Knitting Mill Creek
 - Boat ramps listed above.
 - Mayflower Road, informal access (parking - on street).

- Granby Street Bridge, informal access (parking - public lot).
 - Lucile Avenue, informal access (parking - on street).
 - Villa Circle, informal access (parking - on street).
 - Norview Avenue Bridge, informal access (parking - none).
2. Western Branch - Upstream of U.S. 17 Bridge
- Boat ramps listed above.
 - Dock Landing Road Bridge (Bailey Creek), informal access (parking - on shoulder).
 - Airline Boulevard Bridge (Goose Creek), informal access (parking - on shoulder).
3. Southern Branch - Deep Creek Only
- Deep Creek Locks Park, informal access (parking - public lot).
 - George Washington Highway Bridge (U.S. 17), informal access (parking - on shoulder).
 - Fireman Street (Gilmerton Canal), informal access (parking - on shoulder).
4. Eastern Branch - Upstream of Norfolk and Western Railway Bridge
- Berkshire Drive, informal access (parking - on street).
 - South side of Princess Anne Road Bridge, informal access (parking - on street, on Lord Dunmore Drive).
 - Laurel Avenue near Little Beaver Road (Indian River), informal access (parking - on street).
 - Riveredge Road opposite southern end of Meadow Lake (Broad Creek), informal access (parking - on street).
 - West Cove Court at end of cul-de-sac (Broad Creek), informal access (parking - on street).
 - Piney Branch Court next to pedestrian bridge (Broad Creek), informal access (parking - on street).

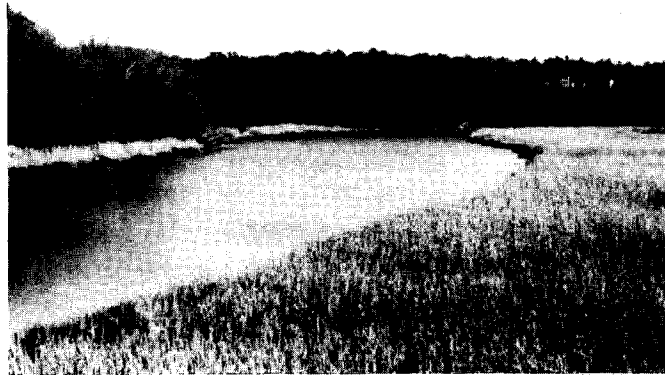
NANSEMOND RIVER SYSTEM

LOCATION AND DESCRIPTION

The Nansemond River System is shown in Figure 10. Located in the City of Suffolk, this system flows into Hampton Roads and is comprised of a main stem, two major tributaries (Bennetts Creek and Western Branch), and numerous minor tributaries. Western Branch and the headwaters of the main stem were dammed to form Norfolk's Western Reservoirs and Portsmouth's Reservoirs.

TRIBUTARIES AND RELATED WATER BODIES

1. West Creek
2. Knotts Creek
3. Bleakhorn Creek
4. Bennetts Creek
 - Deanes Branch
 - Quaker Neck Creek
5. Campbell Creek
6. Cedar Creek
7. Oyster House Creek
8. Western Branch
9. Burnetts Mill Creek
10. Shingle Creek



WESTERN BRANCH AT REID'S FERRY

SIZE

Main stem: approximately fifteen miles long

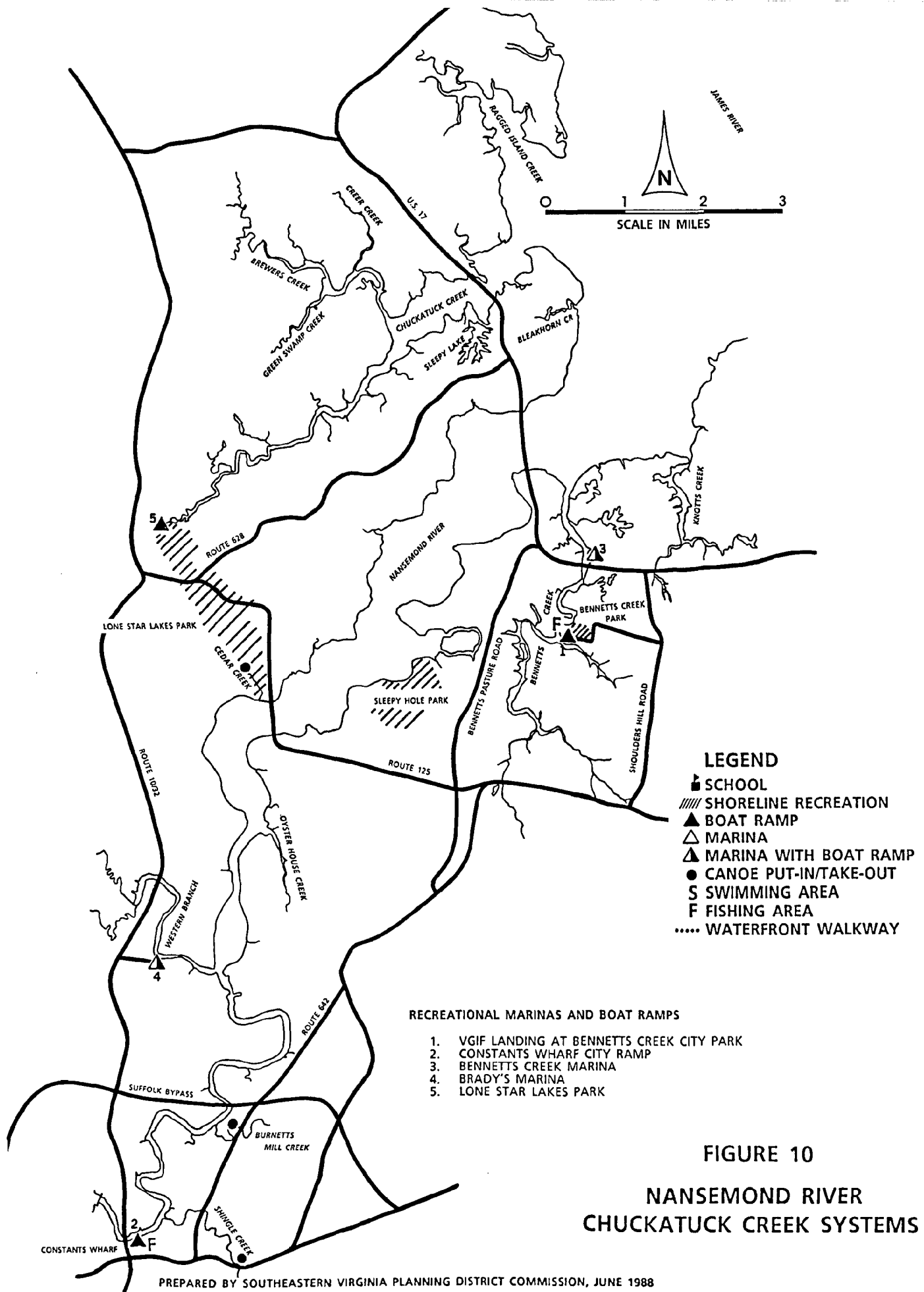
Bennetts Creek: approximately five miles long

Western Branch: approximately 2.5 miles long

The water area for the entire system is approximately 7,200 acres.

DEPTH

Main Stem: 1-6 feet (MLW), COE project depth of 12 feet (MLW) in dredged channel.



Bennetts Creek: 1-7 feet (MLW), 1 foot (MLW) at mouth of Creek.

Western Branch: COE project depth of 10 feet (MLW) in dredged channel. (Currently maintained at 6 feet (MLW).)

WIND AND TIDES

The mean lunar tide range is 2.8-3.8 feet depending on location. Surges from strong easterly or northerly winds will augment lunar tides and may cause local flooding. The fetch at the mouth of the River is five miles to the northeast. Surface waters in this area may become moderately rough during strong winds from this direction.

SHORELINE CHARACTERISTICS

The immediate shoreline consists primarily of embayed and fringe marsh. A 208 acre embayed marsh site located immediately west of the U.S. Naval Transmitter Station is the Nansemond National Wildlife Refuge. There are also small areas of beach, extensive marsh, and artificially stabilized shoreline (bulkhead and riprap). The predominant upland use is agriculture, although residential development is occurring at a rapid rate. Existing residential developments along the Nansemond and its tributaries include Cedar Point, Bennetts Harbor, Bennetts Creek Landing, Longvue Shores, Nansemond Shores, Holiday Point Estates, Sleepy Point Estates, Rivercliff and Riverview. Other upland uses include, in order of predominance: unmanaged woodland, military (U.S. Naval Transmitter Station), recreation (Cedar Point Golf Course, Sleepy Hole Park and Bennetts Creek Park), and commercial (marinas along the Nansemond and Bennetts Creek, and dock facilities and businesses in downtown Suffolk).

INDIGENOUS FLORA AND FAUNA

Shoreline vegetation consists primarily of marsh grasses. The marsh habitat supports a variety of wading birds, migratory waterfowl and fur bearing mammals (muskrat and nutria). The waters of the Nansemond River System support a diversity of marine and, in upstream areas, brackish water finfish. Shellfish, especially oysters and blue crabs, are in abundance. Due to water quality problems, however, shellfish harvesting is prohibited upstream of the Kings Highway Bridge.

APPROPRIATE RECREATIONAL ACTIVITIES

Fishing (boat, shore and pier), power boating, canoeing, hunting and wildlife observation.

SWIMMING BEACHES

None

FISHING ACCESS

Access for boat fishing is possible from marinas, boat ramps and canoe put-in points found along the River and its tributaries. In general, shore fishing is limited due to a lack of publicly owned shoreline and the presence of marsh between the upland and the water. Public access for shore fishing is possible at Bennetts Creek Park and along a piece of bulkheaded City property on the south side of the River in downtown Suffolk. Pier fishing is possible from a small 30-40 foot pier at Bennetts Creek Park.

POSSIBLE BOATING CONSTRAINTS

Shallow water, low vertical clearance under bridges and a pipeline (seven feet under Kings Highway swing bridge, four feet under Main Street bascule bridge, six feet vertical clearance under water pipeline crossing Western Branch), commercial vessels, shoaling near mouth of Bennetts Creek, and wind and high waves near mouth of river.

RECREATIONAL MARINA SLIPS AND BOAT RAMPS

- VGIF Landing at Bennetts Creek City Park, two ramps (public).
- Constants Wharf City Ramp, one ramp (public).
- Bennetts Creek Marina, one ramp, 46 slips (commercial).
- Brady's Marina, one ramp, 38 slips (commercial).
- Nansemond River Yacht Club, one ramp, eight slips (private).
- Bennetts Creek Landing, 35 slips under construction (private).

PUBLICLY ACCESSIBLE CANOE PUT-IN/TAKE-OUT POINTS

- Boat ramps listed above.
- Cedar Creek landing in Lone Star Lakes Park, formal access (parking - public lot).
- Wilroy Road Bridge (Burnetts Mill Creek), informal access (parking - on shoulder).
- U.S. 58 Bridge (Shingle Creek), informal access (parking - on shoulder).

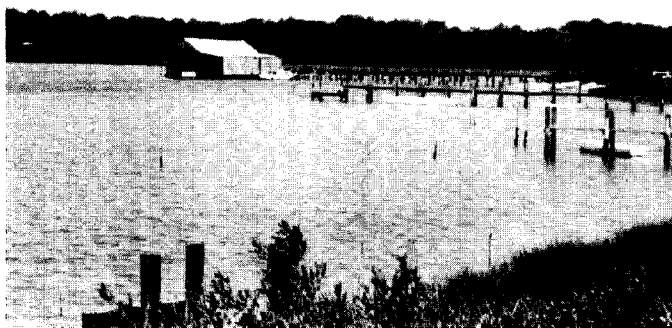
CHUCKATUCK CREEK SYSTEM

LOCATION AND DESCRIPTION

The Chuckatuck Creek System is shown in Figure 10. Located in the City of Suffolk and Isle of Wight County, this system is tributary to Hampton Roads.

TRIBUTARIES AND RELATED WATER BODIES

1. Batten Bay
2. Ragged Island Creek
3. Winall Creek
4. Smith Neck Creek
5. Sleepy Lake
6. Brewers Creek
 - Creer Creek
 - Green Swamp Creek



CHUCKATUCK CREEK AT CRITTENDEN

SIZE

Length: approximately 7.5 miles

Area: approximately 2,000 acres.

DEPTH

2-8 feet (MLW), COE project depth of 7-13 feet (MLW) in dredged channel.

WIND AND TIDES

The mean lunar tide range at the mouth of the Creek is 2.8 feet. Surges from strong east to northeast winds may cause local flooding. Fetches at the mouth of the Creek are 9.4 miles to the east and unlimited to the east-northeast. Surface waters in this area may become moderately rough with strong winds from these directions.

SHORELINE CHARACTERISTICS

The immediate shoreline consists primarily of embayed and fringe marsh. There are also small sections of shoreline that are artificially stabilized (bulkheads). The predominant upland uses are agriculture and unmanaged woodland. Other uses include residential (James Park, Sleepy Lake and Cherry Grove Estates) and recreational (Lone Star Lakes Park).

INDIGENOUS FLORA AND FAUNA

Shoreline vegetation consists primarily of marsh grasses. The marsh habitat supports a variety of wading birds, migratory waterfowl and fur bearing mammals (muskrat and nutria). The waters of the Chuckatuck Creek System support a diversity of marine and, in upstream areas, brackish water finfish. Shellfish, especially oysters and blue crabs, are also in abundance. Due to water quality problems, however, oyster harvesting is allowed at the mouth of the Creek only. Several tributaries of Chuckatuck Creek have been dammed to form drainage lakes (Smith Neck Creek, Creer Creek and Sleepy Lake). These lakes have evolved into relatively complex freshwater ecosystems.

APPROPRIATE RECREATIONAL ACTIVITIES

Fishing (boat), power boating, canoeing, hunting and wildlife observation.

SWIMMING BEACHES

None

FISHING ACCESS

The only public access opportunities for fishing in Chuckatuck Creek are a canoe put-in/take-out point and a designated shore fishing area in Lone Star Lakes Park.

POSSIBLE BOATING CONSTRAINTS

Shallow water.

RECREATIONAL MARINA SLIPS AND BOAT RAMPS

Lone Star Lakes Park, one dirt ramp (public).

PUBLICLY ACCESSIBLE CANOE PUT-IN/TAKE-OUT POINTS

Boat Ramp listed above.

JAMES RIVER, SOUTH AND WEST SHORE VICINITY

LOCATION AND DESCRIPTION

The James River (south and west shore vicinity) is shown in Figure 11. This stretch of the River is located off Isle of Wight County from the James River Bridge to the Surry County line. The U.S. Maritime Administration's James River Reserve Fleet is anchored in this section of the River.

TRIBUTARIES AND RELATED WATER BODIES

1. Kings Creek
2. Ballards Creek
3. Pagan River System (see page 48)
4. Lawnes Creek (see page 51)



JAMES RIVER AT FORT BOYKIN

SIZE

Approximately eighteen miles of shoreline, and approximately 17,000 acres of water within corporate boundaries of Southeastern Virginia localities.

DEPTH

N/A

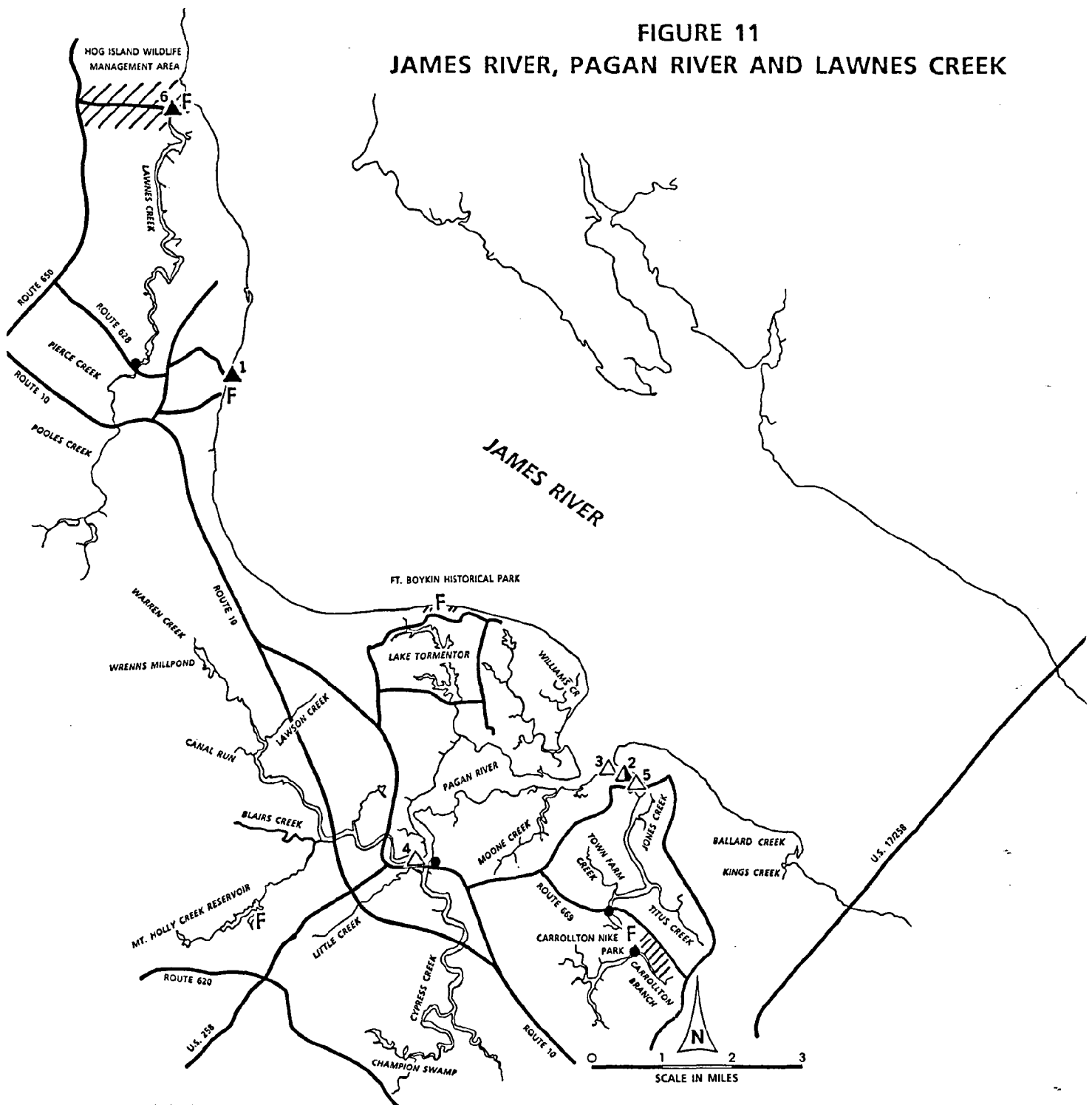
WIND AND TIDES

The mean lunar tide range is approximately 2.4 feet. Fetches along this shoreline vary from four to fifteen miles from the northwest clockwise to the southeast. Strong winds from any of these directions may expose certain areas to extremely rough seas and may cause coastal flooding and erosion.

SHORELINE CHARACTERISTICS

The immediate shoreline consists of beaches, tidal flats, fringe marshes, extensive marshes, or is artificially stabilized (bulkhead, riprap and, rock or wood groin fields). Along certain portions of this shoreline, bluffs of up to 15 feet are found behind the beach area. Upland uses include, in order of predominance: agriculture, unmanaged woodland and residential (Rushmere Shores, Holly Point, Mogarts Beach and James River Shores).

FIGURE 11
JAMES RIVER, PAGAN RIVER AND LAWNES CREEK



LEGEND

- SCHOOL
- SHORELINE RECREATION
- BOAT RAMP
- MARINA
- MARINA WITH BOAT RAMP
- CANOE PUT-IN/TAKE-OUT
- SWIMMING AREA
- FISHING AREA
- WATERFRONT WALKWAY

RECREATIONAL MARINAS AND BOAT RAMPS

1. VGIF TYLERS BEACH LANDING
2. RESCUE MARINA
3. BROWNS MARINA
4. SMITHFIELD STATION
5. RESCUE YACHT BASIN
6. HOG ISLAND WILDLIFE MANAGEMENT AREA

INDIGENOUS FLORA AND FAUNA

Shoreline vegetation consists of various beach and/or marsh grasses. The beach and marsh habitats support a number of species of shorebirds, wading birds and waterfowl. A pair of peregrine falcons is currently nesting in the superstructure of one of the "mothballed" ships anchored in the U.S. Maritime Administration's James River Reserve Fleet. The underwater structures of the James River Bridge and the Reserve Fleet attract large concentrations of fish. These waters are also abundant in shellfish, especially oysters and blue crabs.

APPROPRIATE RECREATIONAL ACTIVITIES

Fishing (boat and shore), power boating and sailing.

SWIMMING BEACHES

Swimming opportunities are limited because of access restrictions (there are no publicly designated beaches) and undesirable shoreline characteristics. In general, most beaches are unsuitable for swimming because they are vegetated, are fronted by fringe marshes or tidal flats, or are composed of clay and rocks. Also, during the months of July and August, when the water temperature is most conducive to swimming, the presence of large numbers of jellyfish makes swimming undesirable.

FISHING ACCESS

Access for boat fishing is possible from water access facilities located in the Nansemond River System, the Pagan River System and along the shoreline of Burwell Bay. Shore fishing is limited due to a lack of public access points. The only areas with public access to the shoreline for fishing are a 1,000 foot section of shoreline at Fort Boykin Historical Park and the VGIF landing at Tylers Beach.

POSSIBLE BOATING CONSTRAINTS

High waves, wind, fog, shifting shoals and channels, submerged uncharted fish trap structures, large commercial vessels. Private boats are not allowed within 500 feet of the anchorage for the U.S. Maritime Administration's James River Reserve Fleet.

RECREATIONAL MARINA SLIPS AND BOAT RAMPS

- VGIF Tylers Beach Landing, one ramp (public).
- Rushmere Shores Community Landing, one ramp (private).

PUBLICLY ACCESSIBLE CANOE PUT-IN/TAKE-OUT POINTS

None - the use of canoes and other small craft is not recommended in the open waters of the River.

PAGAN RIVER SYSTEM

LOCATION AND DESCRIPTION

The Pagan River System is shown in Figure 11. Located in Isle of Wight County and passing through the Town of Smithfield, this system flows into the James River. The system is comprised of a main stem, two major tributaries (Jones Creek and Cypress Creek) and numerous minor tributaries.

TRIBUTARIES AND RELATED WATER BODIES

1. Williams Creek
2. Jones Creek
 - Titus Creek
 - Town Farm Creek
 - Carrollton Branch
3. Moone Creek
4. Tormentor Creek
 - Lake Tormentor
5. Cypress Creek
 - Little Creek
 - Champion Swamp
6. Little Creek
7. Mount Holly Creek
 - Blairs Creek
8. Canal Run
9. Lawson Creek
10. Wrenns Millpond
11. Warren Creek



SMITHFIELD STATION - MARINA AND RESTAURANT

SIZE

Main Stem: Approximately eleven miles long.

Jones Creek: Approximately seven miles long.

Cypress Creek: Approximately eight miles long

The total water area of the system is approximately 2,500 acres.

DEPTH

1-5 feet (MLW), COE project depth of 4-6 feet (MLW) in dredged channels.

WIND AND TIDES

The mean lunar tide range at Smithfield is 2.8 feet. Surges from strong easterly winds may augment lunar tides and cause local flooding. There are no significant fetches within the system and surface waters are not significantly affected by wind conditions.

SHORELINE CHARACTERISTICS

The immediate shoreline consists primarily of embayed and extensive marsh. There are also small sections of shoreline comprised of fringe marsh or artificially stabilized (bulkheads). The predominant upland use is agriculture. Other uses include, in order of predominance: unmanaged woodland, residential (Battery Park, Moonfield, Pagan Point, Pinewood Heights and Littleton Estates), commercial (marinas, commercial docks, and businesses along the north and east side of Church Street between the Cypress Creek Bridge and the Pagan River Bridge), industrial (the Smithfield Packing Company and Gwaltney of Smithfield plants), and recreational (Carrollton Nike Park and Smithfield Downs Golf Club).

INDIGENOUS FLORA AND FAUNA

Shoreline vegetation consists primarily of marsh grasses. The marsh habitat supports a variety of wading birds, migratory waterfowl and fur bearing mammals (muskrat and nutria). The waters of the Pagan River System support a diversity of marine and, in upstream areas, brackish water finfish. Shellfish, especially oysters and blue crabs, are also in abundance. Due to water quality problems, however, the harvesting of oysters is prohibited in all tributaries and in most of the main stem.

APPROPRIATE RECREATIONAL ACTIVITIES

Fishing (boat, shore and pier), power boating, canoeing, hunting and wildlife observation.

SWIMMING BEACHES

None

FISHING ACCESS

Access for boat fishing is possible from marinas, boat ramps and canoe put-in points located within the Pagan River System. Freshwater shore fishing is possible along Mt. Holly Creek upstream of Route 709 where it has been dammed to create a water supply impoundment. A fishing permit from the Town of Smithfield is required. Pier fishing is possible from a public pier and platform located at Carrollton Nike Park on Jones Creek.

POSSIBLE BOATING CONSTRAINTS

Shallow water, and low vertical bridge clearances (ten feet under the Route 704 fixed bridge over Jones Creek, seven feet under fixed Fulgham Bridge, twelve feet under the Church Street fixed bridge over Cypress Creek, fifteen feet under the Church Street fixed bridge over the Pagan River, and sixteen feet under the Route 10 Bypass fixed bridge over the Pagan River).

RECREATIONAL MARINA SLIPS AND BOAT RAMPS

- Rescue Marina, two ramps (commercial).
- Browns Marina, 70 slips (commercial).
- Smithfield Station, 27 slips (being expanded) (commercial).
- Rescue Yacht Basin, nineteen slips (commercial).

PUBLICLY ACCESSIBLE CANOE PUT-IN/TAKE-OUT POINTS

- Boat ramps listed above.
- Carrollton Nike Park (on Jones Creek), informal access (parking - in public lot).
- Fulgham Bridge (Route 669 over Jones Creek), informal access (parking - on shoulder).
- Church Street Bridge (old bridge platform extending from east side of River, north of new Route 10 bridge), informal access (parking - on street).

LAWNES CREEK

LOCATION AND DESCRIPTION

Lawnes Creek is shown in Figure 11. The Creek forms part of the boundary between the Counties of Isle of Wight and Surry, and is a tributary to the James River.

TRIBUTARIES AND RELATED WATER BODIES

1. Pierce Creek (Surry County)
2. Pooles Creek (Surry County)

SIZE

Length: approximately 8.5 miles

Width: approximately 200 feet

Area: approximately 86 acres

DEPTH

2-10 feet (MLW)

WIND AND TIDES

The mean lunar tide range at the mouth of the Creek is approximately 2.2 feet. Surges from strong easterly winds may augment lunar tides and cause local flooding. There are no significant fetches within the Creek and surface waters are not significantly affected by wind conditions.

SHORELINE CHARACTERISTICS

The immediate shoreline consists primarily of extensive marsh. There are also large sections of shoreline comprised of fringe marsh and embayed marsh. The predominant upland use is unmanaged woodland. Other uses include agricultural, residential and wildlife management (Hog Island State Wildlife Management Area in Surry County).

INDIGENOUS FLORA AND FAUNA

Shoreline vegetation consists primarily of marsh grasses. The marsh habitat supports a variety of wading birds, migratory waterfowl, fur bearing mammals (muskrat and nutria), reptiles and amphibians. The waters of Lawnes Creek support a diversity of brackish and, in upstream areas, freshwater finfish, and an abundance of blue crabs. Lawnes Creek is unique among water bodies in Southeastern Virginia



HOG ISLAND WILDLIFE MANAGEMENT AREA

in that it is frequented by bald eagles which nest near the Hog Island Wildlife Management Area.

APPROPRIATE RECREATIONAL ACTIVITIES

Fishing (boat and shore), power boating, hunting and wildlife observation.

SWIMMING BEACHES

None

FISHING ACCESS

Access for boat fishing is possible from a ramp located in the Hog Island State Wildlife Management Area in Surry County. Public access for shore fishing is also available in the Wildlife Management Area.

POSSIBLE BOATING CONSTRAINTS

Shallow water, shoaling near mouth of Creek, and low vertical clearance under Burnt Mill Bridge (Route 628).

RECREATIONAL MARINA SLIPS AND BOAT RAMPS

- Hog Island Wildlife Management Area (Surry County), one ramp (public).

PUBLICLY ACCESSIBLE CANOE PUT-IN/TAKE-OUT POINTS

- Boat ramp listed above (parking in public lot).
- Burnt Mill Bridge (Route 628), informal access (parking - on shoulder).

BACK BAY SYSTEM

LOCATION AND DESCRIPTION

The Back Bay System is shown in Figure 12. Located in Virginia Beach, this system is roughly bordered by Dam Neck - Sandbridge on the north, the Pungo Ridge on the west, False Cape on the east and the Virginia - North Carolina state line on the south. The Back Bay is the northern arm of an estuarine system that includes Currituck, Albemarle and Pamlico Sounds in North Carolina.

TRIBUTARIES AND RELATED WATER BODIES

1. Redwing Lake
2. Scopus Marsh
3. Brinson's Inlet Lake
4. Black Gut
5. Whiskey Creek
6. Mill Creek
7. Stone Creek
8. Hell Point Creek
9. Asheville Bridge Creek
10. Muddy Creek
11. Beggars Bridge Creek
12. Nawney Creek
13. Devil Creek



BACK BAY

SIZE

Length: approximately thirteen miles.

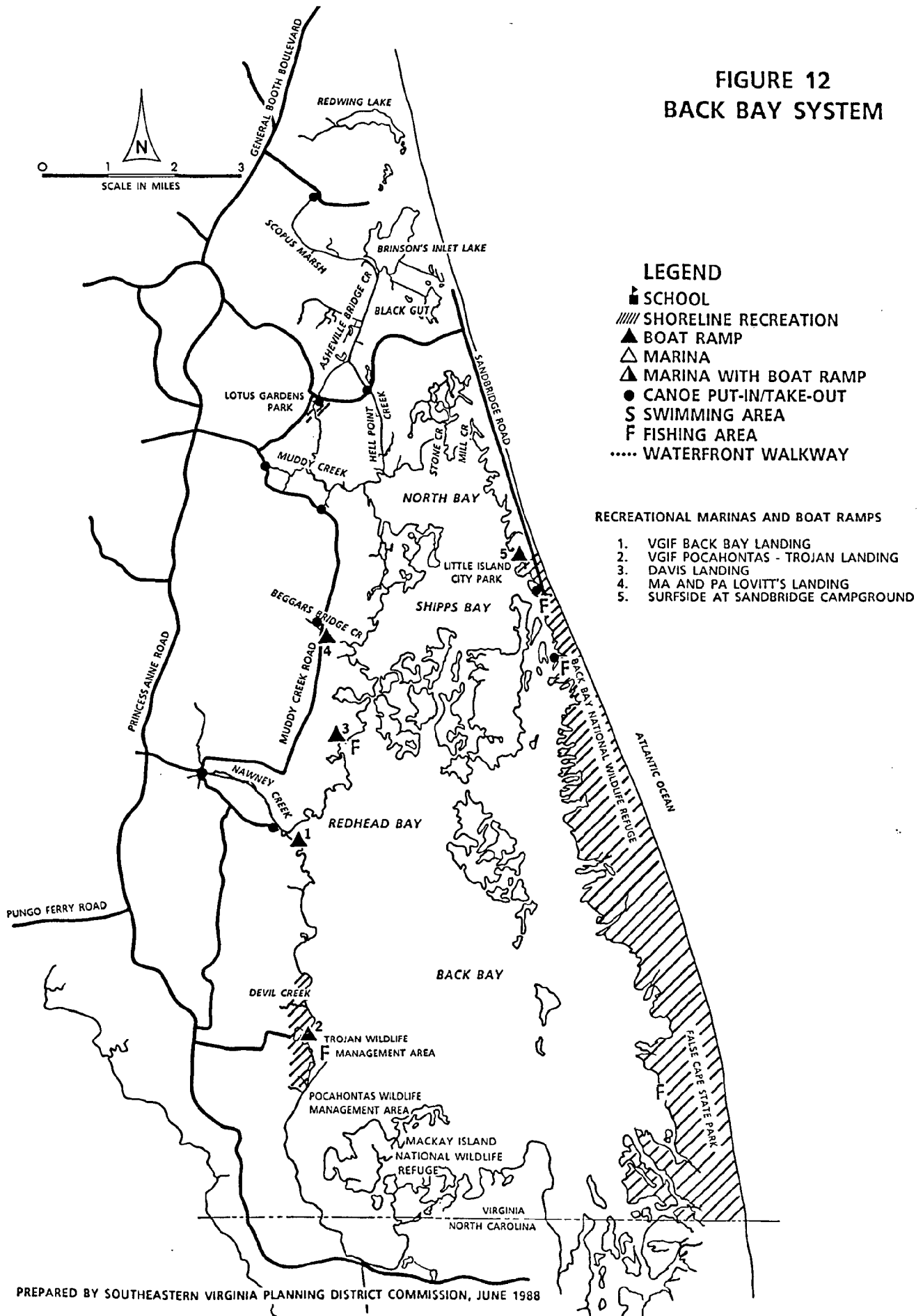
Width: approximately five miles.

Area: approximately 24,000 acres.

DEPTH

3-7 feet, 8-10 feet in dredged channels

FIGURE 12
BACK BAY SYSTEM



WIND AND TIDES

The Back Bay is not significantly influenced by lunar tides. Significant wind tides, however, frequently occur during sustained periods of strong winds. This is a particularly common occurrence along the northern shoreline where wind tides of up to five feet have been recorded in tributaries during periods of strong southerly winds. The Back Bay has no significant fetches, but, due to the shallowness of the Bay, the open Bay waters can become extremely rough for small craft, such as canoes, during periods of strong winds.

SHORELINE CHARACTERISTICS

The immediate shoreline consists primarily of fringe and extensive marsh. There are also small areas of shoreline with embayed marshes or artificial stabilization (bulkheads). Upland uses include, in order of predominance: wildlife management areas (Back Bay National Wildlife Refuge, Mackay Island National Wildlife Refuge, Pocahontas Waterfowl Management Area, Trojan Waterfowl Management Area), recreational (False Cape State Park, Little Island Beach Park, Lotus Gardens Park and two private campgrounds), residential (single-family residences in Sandbridge), agriculture and unmanaged woodlands.

INDIGENOUS FLORA AND FAUNA

Shoreline vegetation consists primarily of marsh grasses. This non-tidal marsh habitat supports a diversity of wading birds and waterfowl, several species of fur bearing mammals (otters, muskrat and nutria) and many species of reptiles and amphibians. The Bay waters support twenty species of fresh and brackish water finfish, and are also home to the blue crab. At one time, the Bay largemouth bass fishery was the best in the State. The quality of this fishery has declined dramatically in recent years however. Reasons for this decline are the subject of much debate in the scientific community.

APPROPRIATE RECREATIONAL ACTIVITIES

Fishing (boat and shore), hunting, canoeing and wildlife observation.

SWIMMING BEACHES

None

FISHING ACCESS

Access for boat fishing is possible from boat ramps and canoe access points found along the shoreline of the Bay and its tributaries. Shore fishing is limited due to the lack of public access points and the presence of extensive marsh systems between upland and water. Shoreline open to the public for fishing includes

designated areas in Back Bay National Wildlife Refuge, False Cape State Park, Little Island Beach Park, Redwing Park, a privately operated fishing concession at Davis Landing and at areas adjacent to bridge crossings along some of the Bay's tributaries (see canoe put-in/take-out points below).

POSSIBLE BOATING CONSTRAINTS

High waves, wind, fog, shallow water, especially during extreme wind tides, submerged uncharted obstructions (mostly remnants of abandoned duck blinds and fish traps), timber snags in tributaries, poisonous snakes in nearshore areas, insects, and possible disorientation due to an extensive network of small coves, islands, canal and inlets.

RECREATIONAL MARINA SLIPS AND BOAT RAMPS

- VGIF Back Bay Landing, one ramp (public).
- VGIF Pocahontas - Trojan Landing, one ramp (public).
- Davis Landing, one ramp (commercial)
- Ma and Pa Lovitt's Landing. one ramp (commercial)
- Surfside at Sandbridge Campground, one ramp (commercial).
- North Bay Shore Campground, one ramp (private - guests only).

PUBLICLY ACCESSIBLE CANOE PUT-IN/TAKE-OUT POINTS

1. Back Bay
 - Boat ramps listed above.
 - Back Bay National Wildlife Refuge Headquarters, informal access (parking - 50 in public lot).
2. Hell Point Creek
 - Sandbridge Road Bridge, informal access (parking - none).
3. Asheville Bridge Creek
 - Sandbridge Road (Lotus Gardens), informal access (parking - 10).
 - Old Dam Neck Road, formal access - needs repairs (parking - 4).
4. Muddy Creek
 - Indian River Road, informal access (parking - on shoulder).
 - North Muddy Creek Road, informal access (parking - none).

5. Beggars Bridge Creek

- Muddy Creek Road Bridge, formal access (parking - on shoulder).

6. Nawney Creek

- Nawney Creek Road Bridge, informal access (parking- none).
- Mill Landing Road, informal access (parking - 6).

NORTH LANDING RIVER SYSTEM

LOCATION AND DESCRIPTION

The North Landing River System is shown in Figure 13. This River flows in a southeasterly direction through the Cities of Virginia Beach and Chesapeake emptying into the Currituck Sound in North Carolina. Approximately three miles of the main stem forms the Virginia Beach/Chesapeake boundary. From its confluence with the Albemarle and Chesapeake Canal to Currituck Sound, the River is part of the Intracoastal Waterway. Segments of the River and several of its tributaries (West Neck Creek, Pocaty Creek and Blackwater Creek) have recently been included in the Virginia State Scenic Rivers System. In addition, the City of Virginia Beach has officially designated West Neck Creek as the first segment of what will eventually be a city-wide system of non-motorized recreational waterways. West Neck Creek is significant not only for its scenic and relatively undisturbed environment, but also as a link between the Lynnhaven River and the North Landing River Systems. The City of Chesapeake has officially designated Pocaty Creek as a component of its Scenic Waterways System.

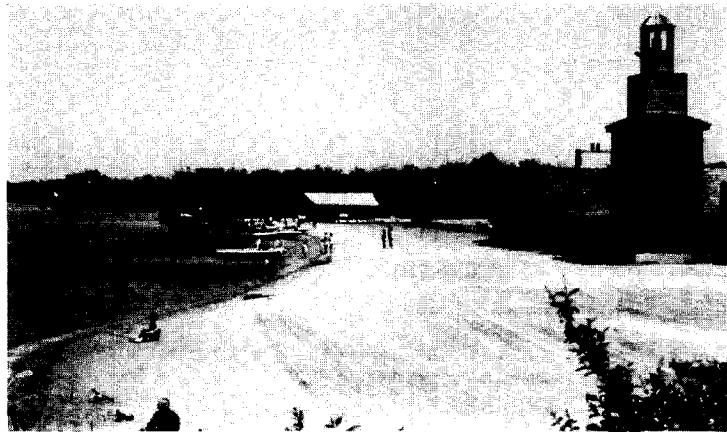
TRIBUTARIES AND RELATED WATER BODIES

1. Chelydra Stream
2. West Neck Creek
3. Albemarle and Chesapeake Canal (see page 64)
4. Pocaty Creek (River)
5. Blackwater Creek
6. Oakems Creek
7. Milldam Creek
8. Snake Creek
9. Walnut Creek

SIZE

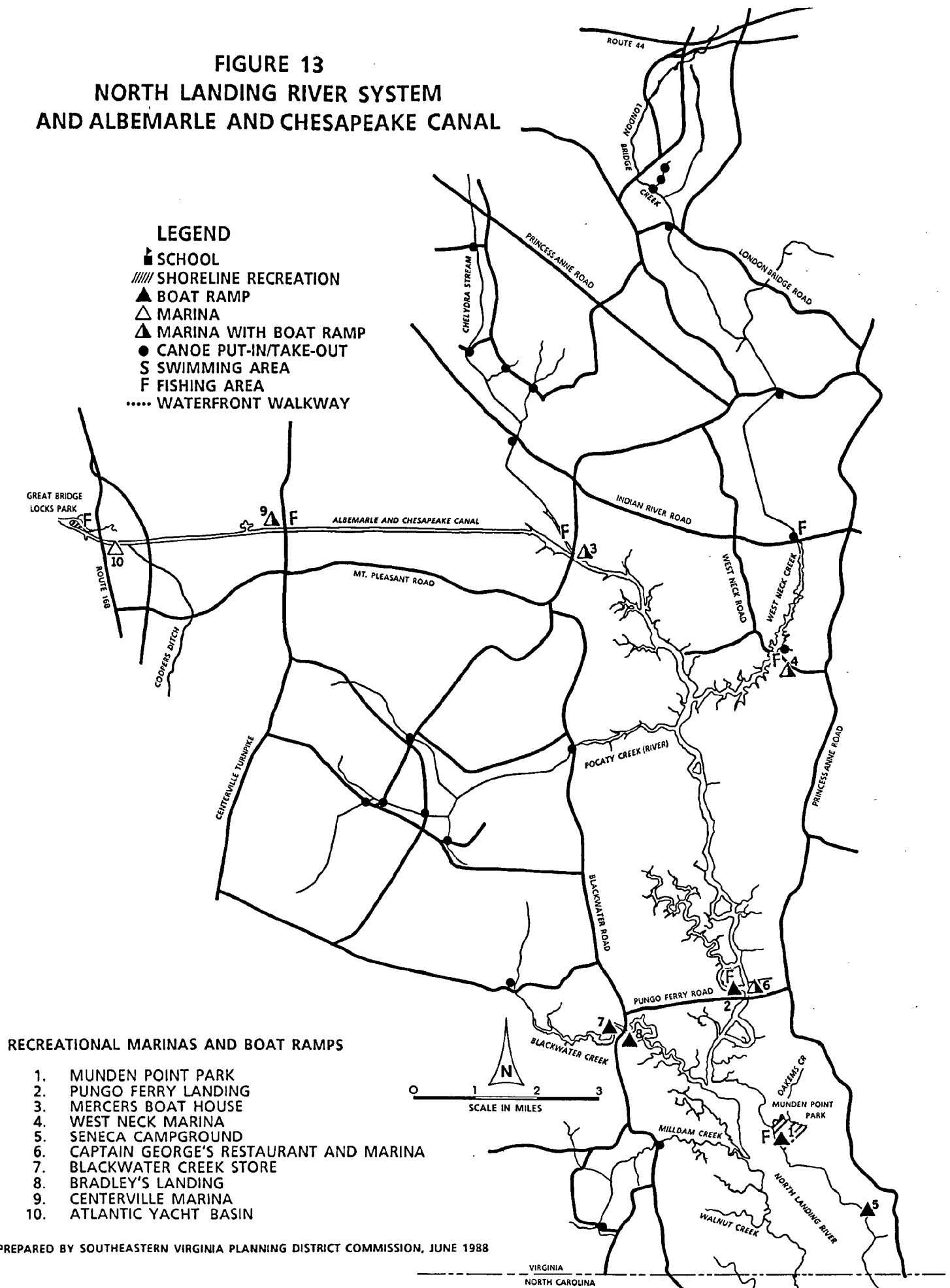
Main Stem

Length: approximately 22 miles (to North Carolina line).
Width (south from North Landing Road): 300 feet to 1 mile.
Area: approximately 1,700 acres.



CAPTAIN GEORGE'S RESTAURANT - PUNGO

FIGURE 13
NORTH LANDING RIVER SYSTEM
AND ALBEMARLE AND CHESAPEAKE CANAL



West Neck Creek

Length: approximately eleven miles

Width: 10-30 feet north of Indian River Rd., 100-400 feet south of Indian River Rd.

Area: approximately 124 acres

DEPTH

2-5 feet, COE project depth of 12 feet in the Intracoastal Waterway channel.

WIND AND TIDES

This system is not significantly influenced by lunar tides. Significant wind tides, however, frequently occur during sustained periods of strong southerly winds. Wind tides of up to 3.5 feet have been recorded in tributaries during such periods. There are no significant fetches, but the wider, downstream waters can become extremely rough for small, non-motorized craft (such as canoes) during periods of strong winds.

SHORELINE CHARACTERISTICS

In developed areas, particularly in the upper reaches of the system, much of the immediate shoreline has been artificially stabilized (bulkheads or earthen dikes). In undeveloped areas, hardwood swamps are found in upstream areas and marshes (fringe, embayed and extensive) are found in downstream areas. The predominant upland use is unmanaged woodland. Other upland uses include, in order of predominance: agricultural (along the upper reaches of the Pocaty Creek and Blackwater Creek), residential (along the upper reaches of the main stem of the North Landing River, along portions of West Neck Creek and in the Munden Point area); commercial (several restaurants and marinas); and recreational (Munden Point Park and the proposed Fine Park on Pocaty Creek in Chesapeake).

INDIGENOUS FLORA AND FAUNA

Shoreline vegetation consists primarily of marsh grasses and hardwood swamp forest. The non-tidal marsh habitat supports a diversity of wading birds, migratory waterfowl, reptiles, amphibians and several species of fur bearing mammals (beaver, otter, muskrat and nutria). The hardwood swamp provides habitat for songbirds, birds of prey, wood ducks, tree-dwelling mammals and numerous species of reptiles and amphibians. The waters of the system support a variety of freshwater finfish including pickerel, bluegill, catfish, perch and bass.

APPROPRIATE RECREATIONAL ACTIVITIES

Fishing (boat and shore), hunting, power boating, water skiing, canoeing and wildlife observation.

SWIMMING BEACHES

The only swimming beach in the system is a 400 foot man-made beach in front of Captain George's Restaurant and Marina on Pungo Ferry Road.

FISHING ACCESS

Access for boat fishing is possible from marinas, boat ramps or canoe access points found along the shorelines of the River and its tributaries. Shore fishing is difficult due to the lack of public access points and the presence of extensive marsh and hardwood swamp systems between the upland and the water. Shoreline open to the public for fishing can be found at Munden Point City Park, at a privately operated fishing concession at the confluence of the North Landing River and the Albemarle and Chesapeake Canal, and at areas adjacent to bridges over the main stem and tributaries (see canoe put-in/take-out points below).

POSSIBLE BOATING CONSTRAINTS

High waves, wind and fog in wider downstream areas, heavy commercial and recreational boat traffic using Intracoastal Waterway, swing span bridge at Pungo Ferry Road, shallow water, submerged and surface obstructions (stumps and remnants of abandoned duck blinds, piers and fish traps, timber snags in creeks, and discarded refuse in developed areas), insects, and, poisonous snakes and plants in nearshore areas.

RECREATIONAL MARINA SLIPS AND BOAT RAMPS

- Munden Point City Park, one ramp (public).
- Pungo Ferry Landing, one unimproved ramp (public).
- Mercers Boat House, one ramp, fourteen slips (commercial).
- West Neck Marina, one ramp, 30 slips (commercial).
- Seneca Campground, one ramp (commercial).
- Captain George's Restaurant and Marina, one ramp, 46 slips (commercial).
- Blackwater Creek Store, one ramp (commercial).
- Bradley's Landing, one ramp (commercial).

PUBLICLY ACCESSIBLE CANOE PUT-IN/TAKE-OUT POINTS

1. North Landing River (main stem)
 - Boat ramps listed above.
 - Recreation Drive Bridge, informal access (parking - none).
 - Elbow Road Bridge, informal access (parking - 5).
 - Salem Road (branch of North Landing River), informal access (parking - none).
 - Indian River Road Bridge, formal access - needs repairs (parking - 5).
 - Salem Road (branch of North Landing River), informal access (parking - 8).
2. West Neck Creek
 - Swallow Drive, informal access (parking - on street).
 - Magic Hollow Boulevard, informal access (parking - on street).
 - Blackstone Trail, informal access (parking - on street).
 - Shipps Corner Road Bridge, informal access (parking - 12).
 - Princess Anne Road Bridge, informal access (parking - 4).
 - Indian River Road Bridge, informal access (parking - 3).
 - West Neck Road Bridge, informal access (parking - 8).
3. Pocaty Creek (River)
 - Blackwater Road Bridge, formal access (parking - 12).
 - Silvertown Avenue Bridge, informal access (parking - none).
 - Long Ridge Road Bridge, informal access (parking - none).
 - Fentress Airfield Road Bridge (south fork of River), informal access (parking - none).
 - Land of Promise Road Bridge, informal access (parking - on shoulder).
 - Fentress Airfield Road Bridge (north fork of River), informal access (parking - none).

4. Blackwater Creek

- Boat ramps listed above
- Head of River Road, informal access (parking - 2).

5. Milldam Creek

- Blackwater Road Bridge, informal access (parking - 2).
- Craggs Causeway, informal access (parking - none).

ALBEMARLE AND CHESAPEAKE CANAL

LOCATION AND DESCRIPTION

The Albemarle and Chesapeake Canal is shown in Figure 13. Located in Chesapeake, the Canal is an integral part of the Atlantic Intracoastal Waterway. The Canal serves as a link between the Southern Branch of the Elizabeth River and the North Landing River.

TRIBUTARIES AND RELATED WATER BODIES

1. Coopers Ditch
2. North Landing River (see page 58)

SIZE

Length: approximately 8.5 miles
Width: approximately 90 feet

DEPTH

COE project depth of 12 feet in dredged channel.

WIND AND TIDES

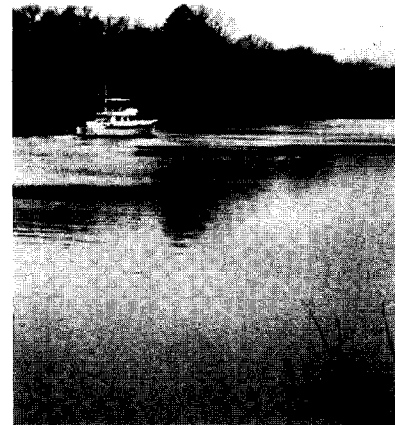
The Canal is not influenced by lunar tides. Surges from sustained periods of southerly winds will affect water levels, however. The Canal does not have significant fetches and surface waters are not significantly affected by wind conditions.

SHORELINE CHARACTERISTICS

The immediate shoreline consists of hardwood swamps, steep, wooded banks or is artificially stabilized (bulkheads or riprap). The predominant upland use is unmanaged woodland. Other uses include commercial (Atlantic Yacht Basin, Centerville Marina and retail businesses adjacent to the Battlefield Boulevard Bridge), industrial (Norfolk Dredging Company), residential (Gaskin Trailer Park) and recreational (Great Bridge Locks Park).

INDIGENOUS FLORA AND FAUNA

Shoreline vegetation consists primarily of hardwood forest. Because of heavy boat traffic, the canal does not support an abundance of bird life. The Canal waters support a diversity of fresh and brackish water finfish. The hardwood swamps bordering the Canal provide habitat for songbirds, tree-dwelling mammals, birds of prey, and numerous species of reptiles and amphibians.



INTRACOASTAL WATERWAY AT CENTERVILLE TURNPIKE

APPROPRIATE RECREATIONAL ACTIVITIES

Fishing (shore) and power boating.

SWIMMING BEACHES

None

FISHING ACCESS

Access for boat fishing is possible from the marinas and boat ramps found along the Canal or along connecting waterways (the Southern Branch of the Elizabeth River and the North Landing River). Shore fishing is limited due to a lack of public access points. Shoreline open to the public for fishing can be found along the Great Bridge Locks Park access road and adjacent to the north side of the Centerville Turnpike bridge.

POSSIBLE BOATING CONSTRAINTS

Heavy commercial and recreational boat traffic; swing bridges at Battlefield Boulevard, Centerville Turnpike and North Landing Road; and wakes from large boats.

RECREATIONAL MARINA SLIPS AND BOAT RAMPS

- Centerville Marina, one ramp, six slips (commercial).
- Atlantic Yacht Basin, 200 slips (commercial).

PUBLICLY ACCESSIBLE CANOE PUT-IN/TAKE-OUT POINTS

None - the use of canoes and other small, self-propelled craft is not recommended due to the wakes of large commercial and recreational vessels.

NORTHWEST RIVER SYSTEM

LOCATION AND DESCRIPTION

The Northwest River System is shown in Figure 14. This River, which is approximately fifteen miles long, traverses the southern portion of the City of Chesapeake before turning south and entering North Carolina at Tull's Bay in Currituck Sound. The Virginia portion of the system is roughly bounded by Benefit Road to the north, U.S. 17 to the west, the Virginia/North Carolina border to the south and the Chesapeake/Virginia Beach border to the east. The River serves as a water supply source for the City of Chesapeake. A 9.0 mile segment of the River, from Bunch Walnuts Road to Northwest River Park, has been found to be "worthy of future evaluation" for inclusion in the Virginia Scenic Rivers System. This section of the River has also been designated by the City of Chesapeake as a component of its Scenic Waterways System.

TRIBUTARIES AND RELATED WATER BODIES

1. Northwest Canal
2. Twelve Foot Ditch
3. Weston Ditch
4. Happer Ditch
5. Beaverdam Ditch
6. Mill Stream
7. Indian Creek
8. Smith Creek



NORTHWEST RIVER

SIZE

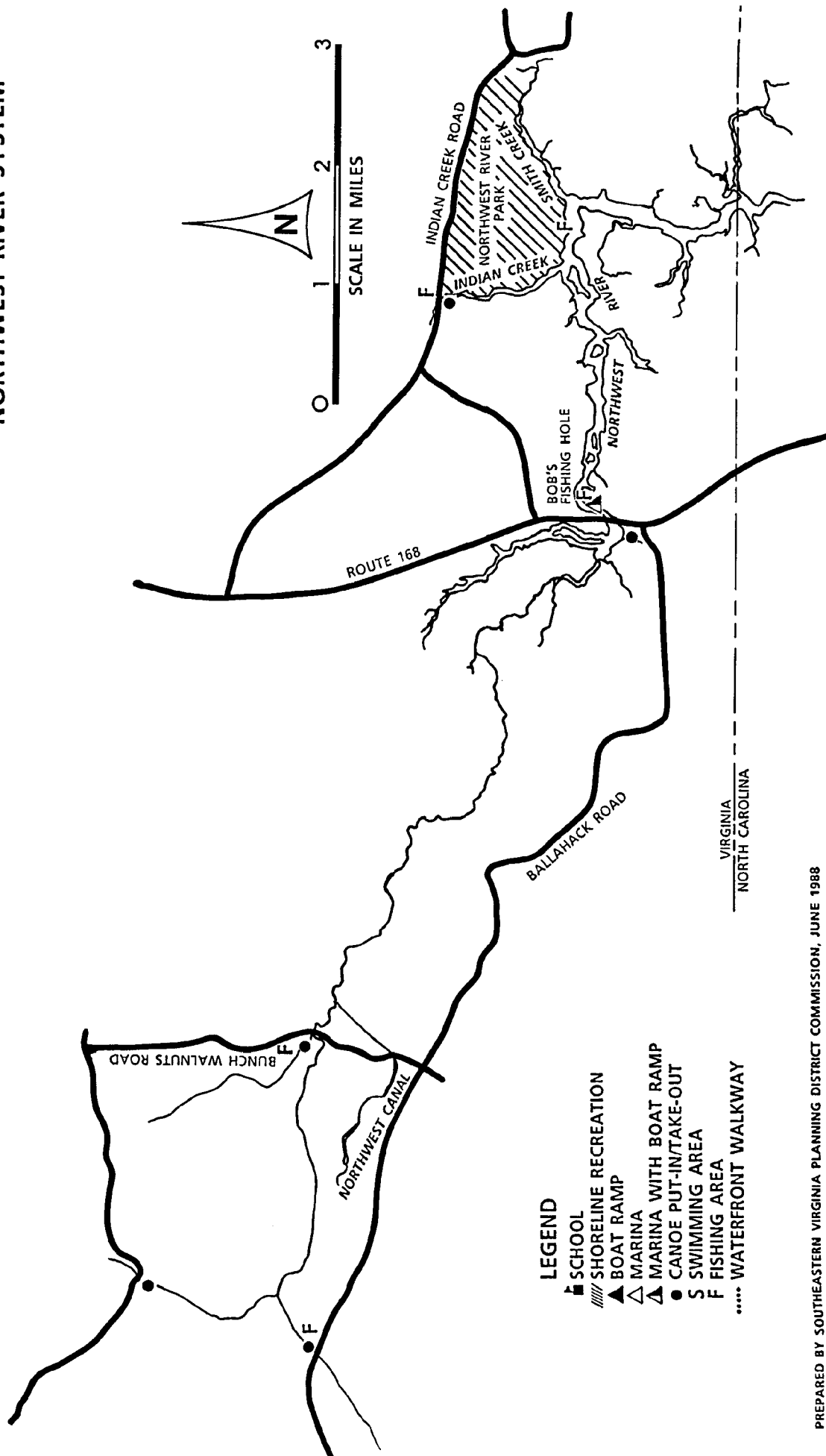
Length: approximately thirteen miles (to North Carolina line)

Area: approximately 1,530 acres

DEPTH

2-16 feet

FIGURE 14
NORTHWEST RIVER SYSTEM



WIND AND TIDES

This system is not significantly influenced by lunar tides. Surges from sustained periods of strong southerly winds can raise water levels by as much as two feet however. There are no significant fetches and surface waters are not significantly affected by wind conditions.

SHORELINE CHARACTERISTICS

Throughout most of the system, the immediate shoreline consists of hardwood swamp. Along the man-made ditches and canals, the shoreline is composed of earthen dikes. The predominant upland use is unmanaged woodland. Other uses include, in order of predominance: agricultural, recreational (Northwest River Park, private campground on Battlefield Boulevard, and RRR Ranch, a church camp, off of Bunch Walnuts Road), and military (U.S. Navy Northwest Radio Station).

INDIGENOUS FLORA AND FAUNA

Shoreline vegetation consists primarily of cypress-gum swamp. The Northwest River waters support a variety of wading birds and migratory waterfowl, many species of freshwater finfish, several species of fur bearing mammals (muskrat, nutria, otter and beaver) and numerous species of reptiles and amphibians. In addition, the swamp habitat is home to songbirds, birds of prey, wood ducks, tree-dwelling mammals and numerous reptiles and amphibians.

APPROPRIATE RECREATIONAL ACTIVITIES

Fishing (boat and shore), power boating and wildlife observation.

SWIMMING BEACHES

None

FISHING ACCESS

Access for boat fishing is possible from several boat ramps and canoe access points. Shore fishing is limited due to the lack of public access points and the presence of swamps between the upland and the water. Access to the shoreline for fishing is possible at Northwest River Park, a privately operated fishing concession at Bob's Fishing Hole and areas adjacent to bridges on Battlefield Boulevard (Route 168), Indian Creek Road, Bunch Walnuts Road and Ballahack Road.

POSSIBLE BOATING CONSTRAINTS

Shallow water and timber snags in tributaries, submerged stumps, insects, and poisonous snakes in near shore areas.

RECREATIONAL MARINA SLIPS AND BOAT RAMPS

- Bob's Fishing Hole, one ramp, ten slips (commercial).

PUBLICLY ACCESSIBLE CANOE PUT-IN/TAKE-OUT POINTS

- Boat ramp listed above.
- Indian Creek Road Bridge (Indian Creek), formal access (parking - 6).
- Battlefield Boulevard (Route 168) Bridge, formal access (parking - 6).
- Bunch Walnuts Road Bridge, informal access (parking - 4).
- Ballahack Road Bridge (Central Ditch), informal access (parking - 6).
- Benefit Road Bridge (12 Foot Ditch), informal access (parking - on shoulder).

THE GREAT DISMAL SWAMP SYSTEM

LOCATION AND DESCRIPTION

The Great Dismal Swamp System is shown in Figure 15. Components of this system are located within or adjacent to the Great Dismal Swamp National Wildlife Refuge which straddles the boundary between the Cities of Chesapeake and Suffolk. The system is comprised of the Dismal Swamp Canal, Lake Drummond, a man-made connector between the two known as the Feeder Ditch, and numerous drainage ditches. The Dismal Swamp Canal, which extends from Deep Creek in the City of Chesapeake to the Pasquotank River in South Mills, North Carolina, is part of the Atlantic Intracoastal Waterway. This 23 mile long canal is closed to commercial traffic, but offers recreational boaters an alternative to the larger, more active Albemarle and Chesapeake Canal/North Landing River route. Locks at both ends of the Canal and a dam in the Feeder Ditch regulate water levels in the Canal and in the adjacent swamp. The Dismal Swamp Canal and the Feeder Ditch have been officially designated as components of the City of Chesapeake's Scenic Waterways System.

TRIBUTARIES AND RELATED WATER BODIES

1. Dismal Swamp Canal
2. Feeder Ditch
3. Lake Drummond
4. Numerous drainage ditches throughout the Swamp

SIZE

Dismal Swamp Canal

Length: approximately 12.5 miles (to North Carolina line)
Width: approximately 100 feet
Area: approximately 150 acres

Feeder Ditch

Length: approximately 3.5 miles
Width: approximately 40 feet
Area: approximately 17 acres

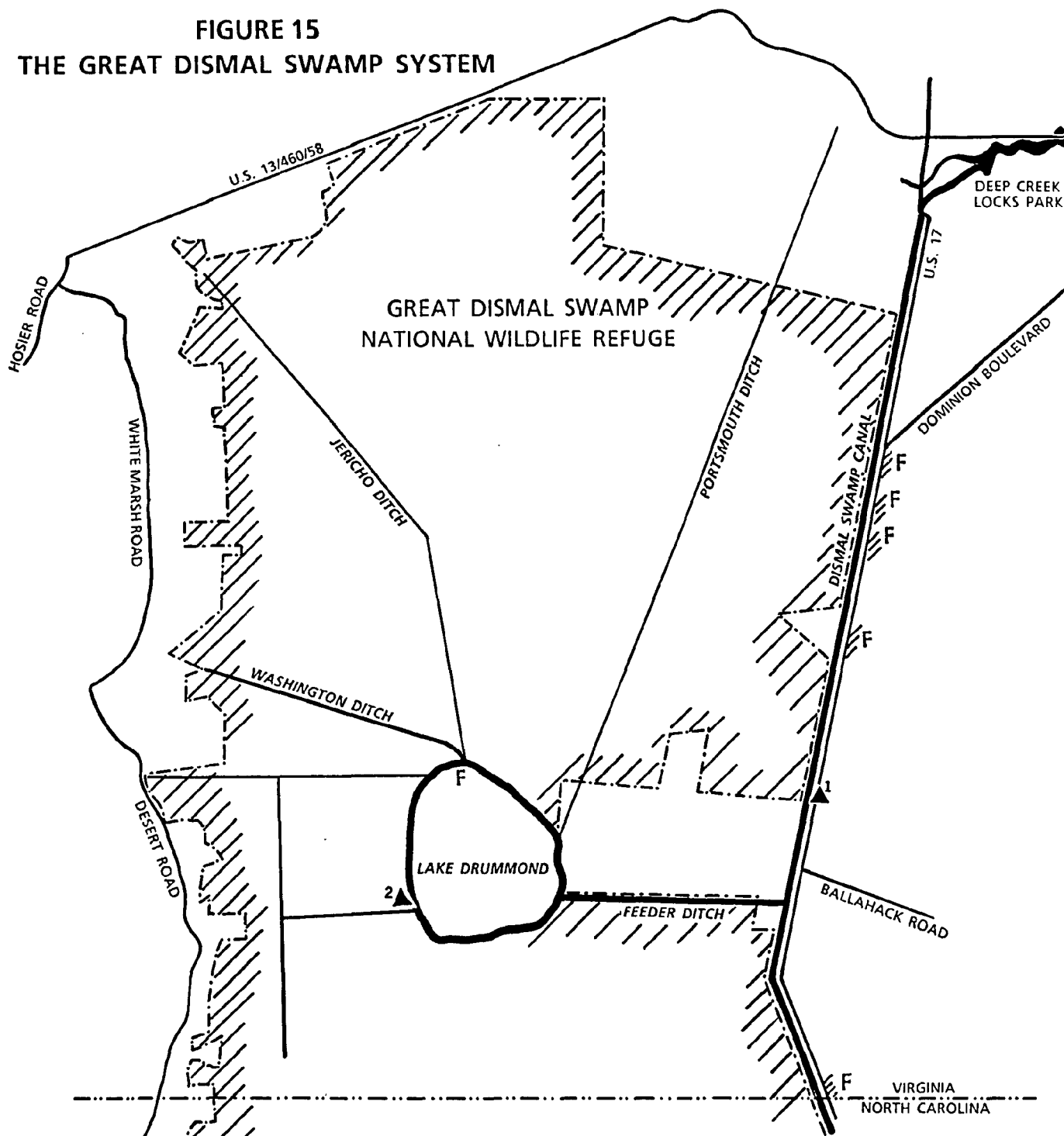
Lake Drummond:

Length: approximately 3 miles
Width: approximately 2 miles
Area: approximately 3,180 acres



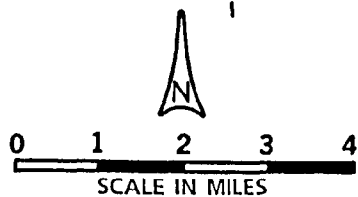
FEEDER DITCH

FIGURE 15
THE GREAT DISMAL SWAMP SYSTEM



BOAT RAMPS

1. VGIF DISMAL SWAMP LANDING
2. LAKE DRUMMOND WILDLIFE REFUGE RAMP



LEGEND

- ▲ SCHOOL
- //// SHORELINE RECREATION
- ▲ BOAT RAMP
- △ MARINA
- △ MARINA WITH BOAT RAMP
- CANOE PUT-IN/TAKE-OUT
- S SWIMMING AREA
- F FISHING AREA
- WATERFRONT WALKWAY

DEPTH

Dismal Swamp Canal: COE project depth of 9 feet

Feeder Ditch: 3-4 feet

Lake Drummond: 6 feet (maximum)

WIND AND TIDES

The Dismal Swamp waterways are not influenced by lunar tides, nor are there significant fetches. Due to the shallowness of Lake Drummond, however, the open waters of the Lake can become rough for small boats during periods of strong winds.

SHORELINE CHARACTERISTICS

The immediate shoreline of Lake Drummond consists primarily of hardwood swamp. The shorelines of the Dismal Swamp Canal and the Feeder Ditch are bulkheaded or consist of steep, vegetated banks. The predominant upland use throughout the system is wildlife management. Other uses include agriculture (privately owned farmland northwest of the confluence of the Canal and the Feeder Ditch), highway (U.S. 17 along the east side of the Canal), and recreation (six waysides between the Canal and U.S. 17, and Deep Creek Locks Park).

INDIGENOUS FLORA AND FAUNA

Shoreline vegetation consists primarily of maple-gum forest along the Canal and the Feeder Ditch and cypress-gum swamp along the shore of Lake Drummond. The Lake supports a variety of migratory waterfowl and wading birds. The waters of the Dismal Swamp provide habitat for several species of fur bearing mammals (beaver, otter and muskrat) and numerous species of reptiles and amphibians. The Dismal Swamp waters are home to 24 species of freshwater finfish. However, due to an overabundance of forage fish (especially bullhead catfish) and a paucity of predator fish (bass, pickerel, gar, bowfin, etc.), the fishery of Lake Drummond is overpopulated and most fish do not grow to a usable size.

APPROPRIATE RECREATIONAL ACTIVITIES

Fishing (boat, pier and shore), canoeing and wildlife observation.

SWIMMING BEACHES

None

FISHING ACCESS

Access for boat fishing is possible from boat ramps on the Dismal Swamp Canal and on Lake Drummond. Use of the Lake Drummond ramp requires a daily permit from the U.S. Fish and Wildlife Service and is limited to ten boats per day. Pier fishing is possible from a 60 foot pier in Deep Creek Locks Park. Shoreline access for fishing the Dismal Swamp Canal is possible from a number of locations along U.S. 17 including six waysides owned by the Virginia Department of Transportation and maintained by the City of Chesapeake. Shore fishing is also possible along Lake Drummond near the terminus of the three mile Washington Ditch Trail.

POSSIBLE BOATING CONSTRAINTS

Closure of the Dismal Swamp Canal locks during periods of low water, wakes from passing power boats on the canal and ditch, a motorized boat lift at the Feeder Ditch Dam with a 1,000 pound weight limit, wind and waves on Lake Drummond, submerged stumps in Lake Drummond, insects, and poisonous snakes in near shore areas. Boating is prohibited on Lake Drummond after sunset.

RECREATIONAL MARINA SLIPS AND BOAT RAMPS

- VGIF Dismal Swamp Landing, one ramp (public).
- Lake Drummond Wildlife Refuge Ramp, one ramp (public - FWS permit required).

PUBLICLY ACCESSIBLE CANOE PUT-IN/TAKE-OUT POINTS

- Boat ramps listed above.
- Deep Creek Locks Park, informal access (parking - public lot).
- Numerous locations along U.S. 17 including six maintained waysides, informal access (parking - in waysides or on shoulder).

BLACKWATER RIVER SYSTEM

LOCATION AND DESCRIPTION

The Blackwater River System is shown in Figure 16. This River originates just below the City of Petersburg and flows southeasterly 105 miles to where it meets the Nottoway River at the North Carolina line. The Chowan River begins at the confluence of the Blackwater and the Nottoway and flows into the Albemarle Sound. Within the Southeastern Virginia region, the Blackwater is the boundary between the Counties of Isle of Wight and Southampton, and between Southampton County and the City of Suffolk. It also flows adjacent to the City of Franklin. A 12.5 mile segment of the river between Zuni and Franklin has been found to qualify for inclusion in the Virginia Scenic Rivers System. Other segments of the River in Southeastern Virginia have been identified as "worthy of future evaluation."

TRIBUTARIES AND RELATED WATER BODIES

1. Terrapin Swamp
2. Hickaneck Swamp
3. Rattlesnake Swamp
4. Villines Swamp
5. Warwick Branch
6. Pig Swamp
7. Pope Swamp
8. Antioch Swamp
 - Britt Run
 - Burnt Mills Swamp
 - Pine Swamp
9. Seacock Swamp
 - Round Hill Swamp
10. Horse Swamp
11. Corrowaugh Swamp
12. Black Creek
 - Cattail Swamp



BLACKWATER RIVER - SOUTH OF FRANKLIN

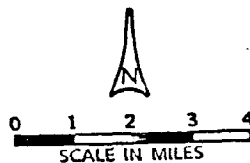
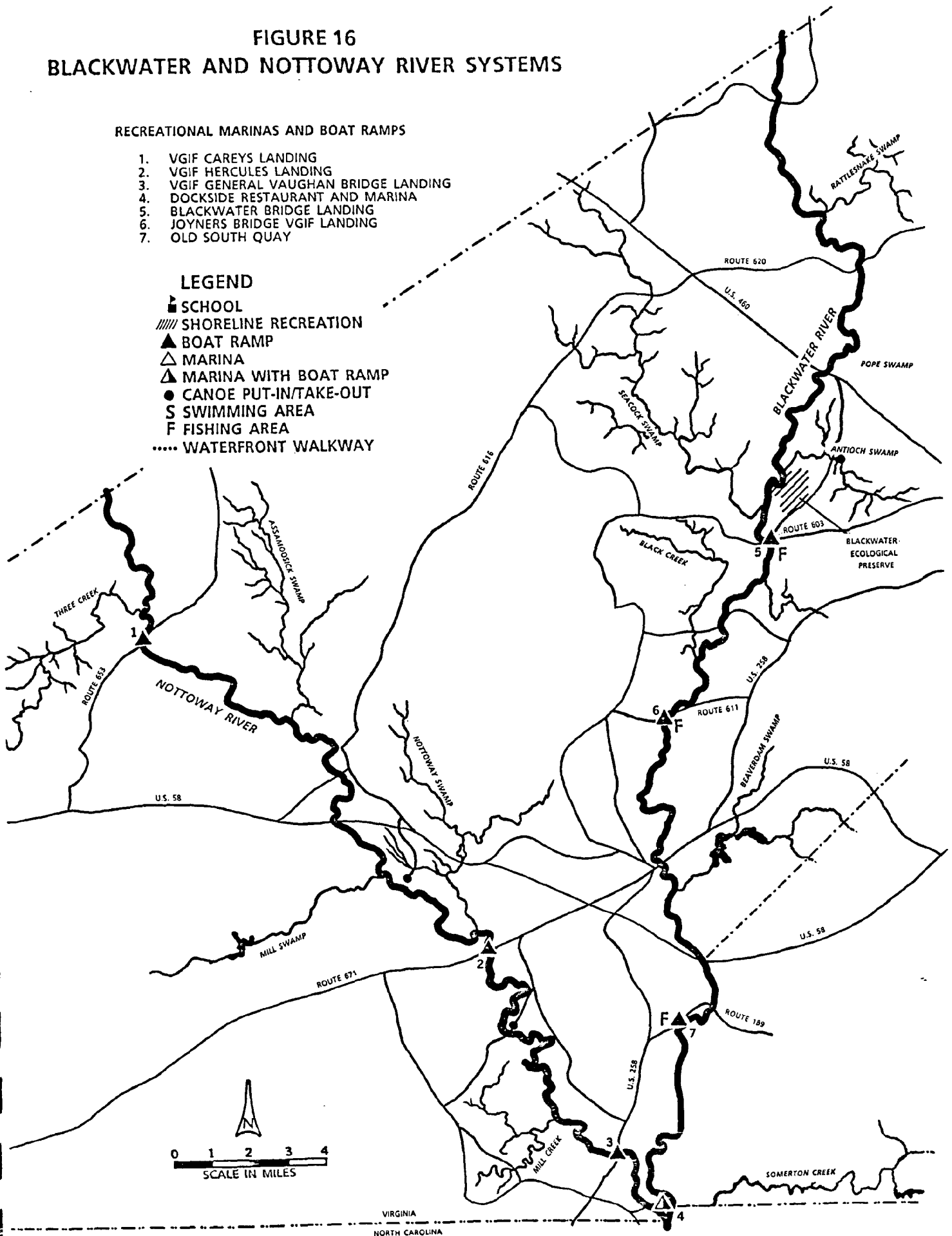
FIGURE 16
BLACKWATER AND NOTTOWAY RIVER SYSTEMS

RECREATIONAL MARINAS AND BOAT RAMPS

1. VGIF CAREYS LANDING
2. VGIF HERCULES LANDING
3. VGIF GENERAL VAUGHAN BRIDGE LANDING
4. DOCKSIDE RESTAURANT AND MARINA
5. BLACKWATER BRIDGE LANDING
6. JOYNERS BRIDGE VGIF LANDING
7. OLD SOUTH QUAY

LEGEND

- SCHOOL
- //// SHORELINE RECREATION
- ▲ BOAT RAMP
- △ MARINA
- △ MARINA WITH BOAT RAMP
- CANOE PUT-IN/TAKE-OUT
- S SWIMMING AREA
- F FISHING AREA
- WATERFRONT WALKWAY



13. Cypress Swamp

14. Nottoway River (see page 78)

SIZE

Length: 51 miles (from Surry County line to North Carolina line)

Area: 1,920 acres (Southeastern Virginia only)

DEPTH

COE project depth of 11 feet in dredged channel from the City of Franklin south to the North Carolina line.

WIND AND TIDES

This River system is not influenced by lunar tides and surface waters are not significantly affected by wind conditions.

SHORELINE CHARACTERISTICS

The immediate shoreline consists primarily of hardwood swamp or steep, 5-40 foot vegetated banks. Some shoreline in the vicinity of Franklin is artificially stabilized (bulkheads). The predominant upland use is unmanaged woodland. Other uses include agricultural, industrial (the Union Camp Corporation in Franklin), recreational (VGIF landings) and nature preservation (the Blackwater Ecological Preserve).

INDIGENOUS FLORA AND FAUNA

Shoreline vegetation consists primarily of hardwood forest. The River is named for its color which is the result of the tannic acid produced by decaying matter in adjoining hardwood swamps. The River supports a variety of wading birds, migratory waterfowl, fur bearing mammals (muskrat, river otter and beaver), reptiles and amphibians. Fish species found in the River include bluegill, crappie, bowfin, pickerel, white perch, channel and white catfish, largemouth bass and, below Franklin, smallmouth bass. The River also supports runs of anadromous fish including shad, herring and alewives. The hardwood swamps bordering the River provide habitat to diverse species of songbirds, birds of prey, wood ducks, tree dwelling mammals, reptiles and amphibians.

APPROPRIATE RECREATIONAL ACTIVITIES

Fishing (boat and shore), power boating and water skiing (downstream of Franklin), canoeing, hunting and wildlife observation.

SWIMMING BEACHES

None

FISHING ACCESS

Access for boat fishing is possible from several public boat ramps along the River and from the canoe put-in/take-out point adjacent to Route 189 . Public access for shore fishing is possible at the VGIF landings at Joyners Bridge (Route 611) and Blackwater Bridge (Route 603).

POSSIBLE BOATING CONSTRAINTS

Timber snags (especially north of the Broadwater Bridge - Route 620), shallow water due to natural shoaling, droughts or withdrawals by the City of Norfolk, disorientation due to hard to follow river channel above Franklin, insects, poisonous snakes in nearshore areas, and commercial vessels below Franklin.

RECREATIONAL MARINA SLIPS AND BOAT RAMPS

- Blackwater Bridge (Route 603) VGIF Landing, one ramp (public).
- Joyners Bridge (Route 611) VGIF Landing, one ramp (public).
- Old South Quay (Route 189), one dirt ramp (public).
- Union Camp Corporation Parking Lot, one dirt ramp (private - Union Camp employees only).

PUBLICLY ACCESSIBLE CANOE PUT-IN/TAKE-OUT POINTS

- Boat ramps listed above.
- Route 614 Bridge over Antioch Swamp, informal access (parking - small dirt lot).

NOTTOWAY RIVER SYSTEM

LOCATION AND DESCRIPTION

The Nottoway River System is shown in Figure 16. This River originates in Lunenburg County and flows southeasterly 155 miles to where it joins the Blackwater River at the North Carolina line. The Chowan River begins at the confluence of the Nottoway and Blackwater and flows into the Albemarle Sound. Within Southeastern Virginia, the Nottoway bisects Southampton County from north to south and runs adjacent to the Town of Courtland. The segment of the Nottoway that runs through Southeastern Virginia has been identified as "worthy of future evaluation" for the Virginia Scenic Rivers System. The portion of the River upstream of Southeastern Virginia (in Sussex County from Stoney Creek to the Southampton County line) has been officially designated as a component of the State system.

TRIBUTARIES AND RELATED WATER BODIES

1. Felts Branch
2. Raccoon Creek
3. Three Creek
4. Buckhorn Swamp
5. Joyner Branch
6. Assamoosick Swamp
7. Mill Swamp
8. Nottoway Swamp
9. Mill Creek
10. Blackwater River (see page 74)



NOTTOWAY RIVER AT ROUTE 684

SIZE

Length: approximately 38 miles (from Sussex County line to North Carolina line)

Area: approximately 640 acres of water (Southeastern Virginia only)

DEPTH

COE project depth of 3 feet from Careys Bridge Landing to Seaboard Coast Line Railway Bridge.

WIND AND TIDES

This River system is not influenced by lunar tides and surface waters are not significantly affected by wind conditions.

SHORELINE CHARACTERISTICS

The immediate shoreline consists of hardwood swamps and steep vegetated banks. Small sections of shoreline in Courtland and Nottoway Shores are artificially stabilized (bulkheads). The predominant upland use is unmanaged woodland. Other uses include agricultural, residential (mostly in Courtland and Battle Beach), commercial (restaurant and marina in Nottoway Shores) and recreational (VGIF boat landings).

INDIGENOUS FLORA AND FAUNA

Shoreline vegetation consists primarily of hardwood forest. The River supports a variety of wading birds, migratory waterfowl, fur bearing mammals (muskrat, river otter and beaver), reptiles and amphibians. Fish species found in the River include bluegill, crappie, pickerel, white perch, channel and white catfish, rock bass, largemouth bass and smallmouth bass. The River also supports runs of anadromous fish including shad, herring and alewives. The hardwood swamps bordering the River provide habitat to diverse species of songbirds, birds of prey, tree dwelling mammals, reptiles and amphibians. The COE, in cooperation with the VGIF, has built approximately 95 wood duck boxes between Careys Bridge Landing and the Seaboard Coast Line Railway Bridge as part of a COE project to improve recreational usage of the Nottoway.

APPROPRIATE RECREATIONAL ACTIVITIES

Fishing (boat and shore), power boating, canoeing, hunting, wildlife observation and water skiing in downstream areas only.

SWIMMING BEACHES

None

FISHING ACCESS

Access for boat fishing is possible from several VGIF landings found along this segment of the River. Shore fishing is also possible at these landings and at several locations where highways run immediately adjacent to the River.

POSSIBLE BOATING CONSTRAINTS

Timber snags, submerged pilings, insects, and poisonous snakes in nearshore areas.

RECREATIONAL MARINA SLIPS AND BOAT RAMPS

- VGIF Careys Landing (on Route 653), one ramp (public).
- VGIF Hercules Landing (on Route 671), one ramp (public).
- VGIF General Vaughan Bridge Landing (on U.S. 258), one ramp (public).
- Dockside Restaurant and Marina (off of Route 753), one ramp, 22 slips (commercial).
- Bronco Club (off of Route 687), one ramp (private).

PUBLICLY ACCESSIBLE CANOE PUT-IN/TAKE-OUT POINTS

- Boat ramps listed above.
- Terminus of Route 742, formal access (parking - in parking area).
- Monroe Bridge (Route 684), informal access (parking - on shoulder).

MOUNT TRASHMORE LAKES

LOCATION AND DESCRIPTION

The Mount Trashmore Lakes are shown in Figure 17. These two man-made lakes, located in Mount Trashmore City Park in Virginia Beach, were developed from borrow pits created during the construction of the Virginia Beach Toll Road and the landfill operation that previously occupied the park site. Lake Windsor is connected to the Western Branch of the Lynnhaven River via Thalia Creek, while Lake Trashmore is landlocked.

TRIBUTARIES AND RELATED WATER BODIES

1. Lake Windsor
2. Lake Trashmore
3. Thalia Creek

SIZE

Approximately 70 acres (two lakes combined)

DEPTH

Lake Windsor: unknown

Lake Trashmore: 10-15 feet



LAKE WINDSOR

WIND AND TIDES

Lake Windsor is slightly influenced by lunar tides and water levels may rise as a result of storm surges in the Lynnhaven System caused by strong easterly or northerly winds. Lake Trashmore is not influenced by lunar or wind tides. Neither lake has significant fetches or wind conditions.

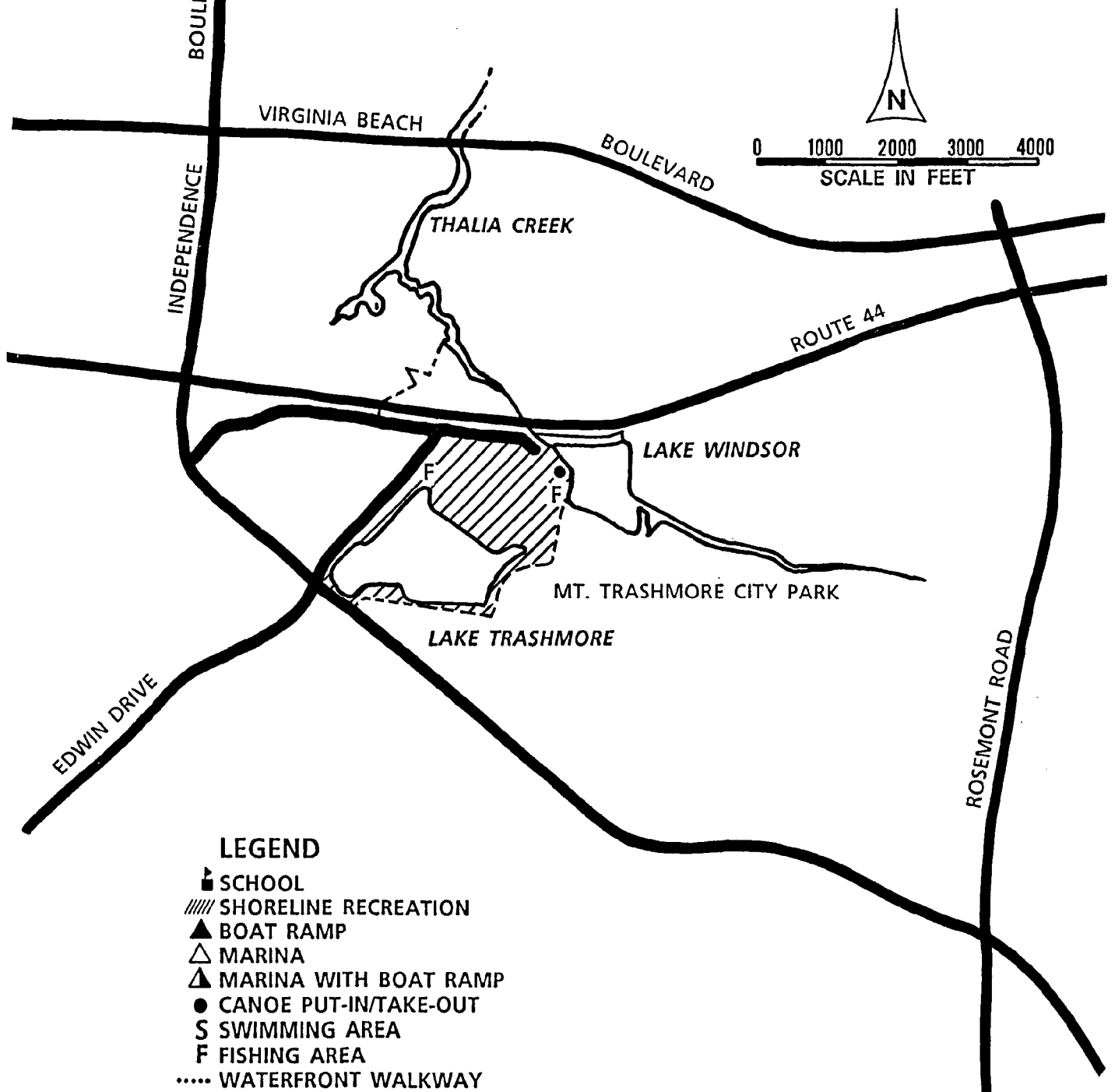
SHORELINE CHARACTERISTICS

The immediate shoreline consists of very narrow beaches, steep grass or brush covered banks, or is artificially stabilized (bulkheads). Upland uses include, in order of predominance: parkland (Mount Trashmore City Park), single family residential (Windsor Woods) and highway (South Boulevard).

INDIGENOUS FLORA AND FAUNA

Because the lakes are man-made and the upland is intensely used for recreational and residential purposes, the immediate shoreline is not rich in indigenous flora and fauna. The lakes are home to numerous domesticated, and some migratory waterfowl. In addition, large numbers of marine birds feed in the

FIGURE 17
MOUNT TRASHMORE LAKES



lakes. Lake Trashmore is freshwater and is stocked annually with a variety of freshwater fish. Two artificial reefs have been placed in Lake Trashmore to provide fish habitat. Due to its connection with Thalia Creek, Lake Windsor is brackish. It is not stocked, but it does support a healthy population of brackish water finfish and occasionally hosts marine species.

APPROPRIATE RECREATIONAL ACTIVITIES

Fishing (boat and shore), canoeing (Lake Windsor only) and windsurfing (Lake Windsor only).

SWIMMING BEACHES

None

FISHING ACCESS

Access for boat fishing in Lake Trashmore is possible only by renting the Park's paddle boats and rowboats. Private boats are prohibited. Private, hand carried, non-motorized boats are allowed on Lake Windsor. Shore fishing is permitted on park property around both lakes, with the exception of the area adjacent to the Lake Trashmore City docks.

POSSIBLE BOATING CONSTRAINTS

Private boats are prohibited on Lake Trashmore, and numerous windsurfers on Lake Windsor.

RECREATIONAL MARINA SLIPS AND BOAT RAMPS

None

PUBLICLY ACCESSIBLE CANOE PUT-IN/TAKE-OUT POINTS

1. Lake Windsor
 - Mt. Trashmore City Park (off of South Boulevard), informal access (parking - in City Park lot).

NORFOLK IN-TOWN RESERVOIR SYSTEM

LOCATION AND DESCRIPTION

The Norfolk In-Town Reservoir System, shown in Figure 18, consists of seven water supply impoundments located in Virginia Beach and Norfolk.

TRIBUTARIES AND RELATED WATER BODIES

1. Stumpy Lake (Virginia Beach)
2. Lake Smith (Virginia Beach)
3. Lake Lawson (Virginia Beach)
4. Little Creek Reservoir (Virginia Beach)
5. Lake Wright (Norfolk)
6. Lake Whitehurst (Norfolk)
- Denny's Canal
7. Lake Taylor (Norfolk)

SIZE

Stumpy Lake: 433 acres
Lake Smith: 222 acres
Lake Lawson: 98 acres
Little Creek Reservoir: 334 acres
Lake Wright: 15 acres
Lake Whitehurst: 375 acres
Lake Taylor: 20 acres

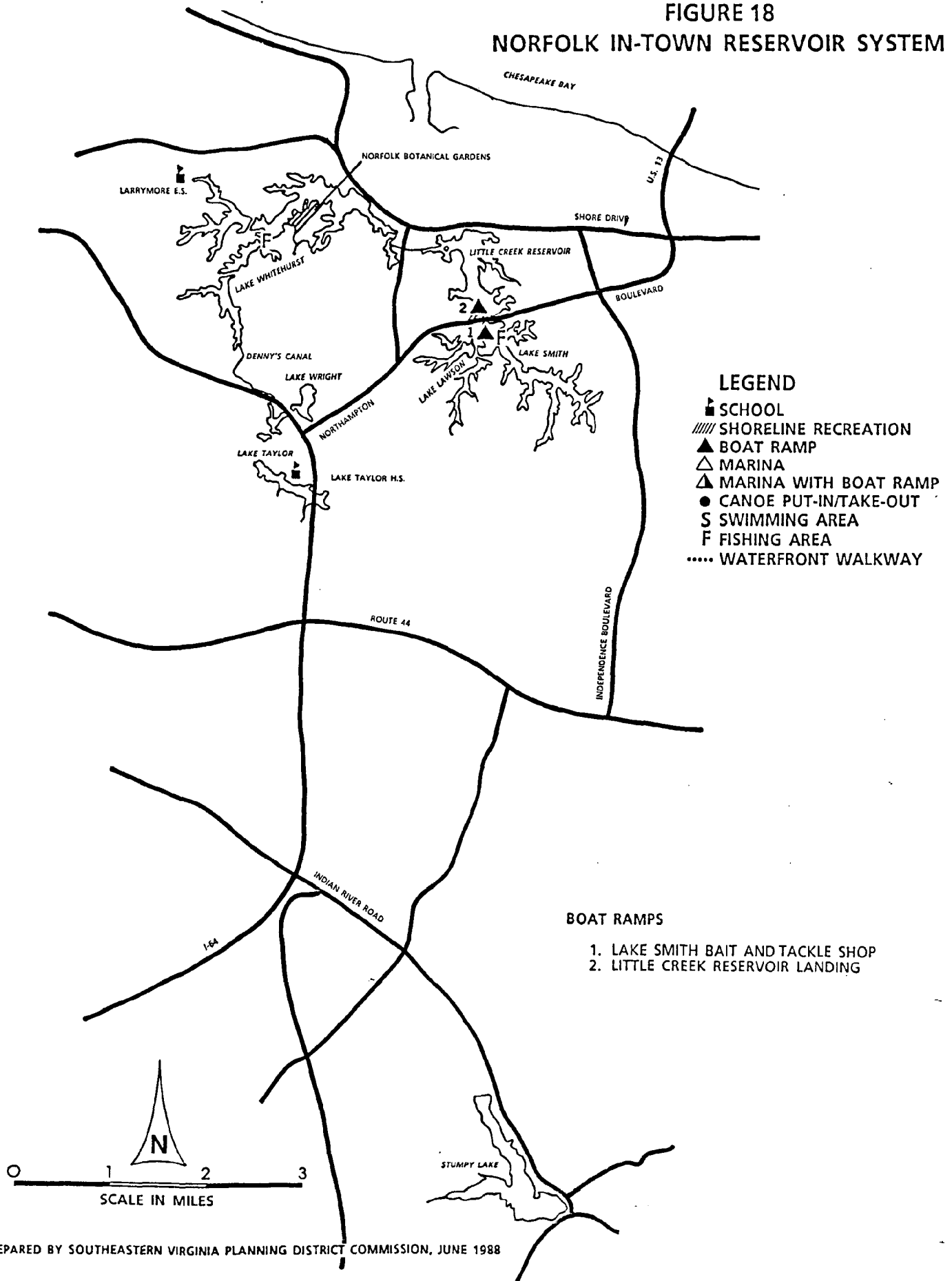
DEPTH

Stumpy Lake: 2-3 feet (estimated average)
Lake Smith: 5.5 feet (average)
Lake Lawson: 5.0 feet (average)
Little Creek Reservoir: 6.0 feet (average)
Lake Wright: 5.0 feet (average)



LAKE SMITH FISHING STATION

FIGURE 18
NORFOLK IN-TOWN RESERVOIR SYSTEM



Lake Whitehurst: 6.0 feet (average). 20-30 feet in borrow areas created during the construction of Norfolk International Airport.

Lake Taylor: 5.0 feet (average)

WIND AND TIDES

The lakes are non-tidal and surface waters are not significantly affected by wind conditions.

SHORELINE CHARACTERISTICS

The immediate shorelines of the lakes consist primarily of wooded or brush covered banks. In areas where highways parallel the shoreline, these banks are man-made earthen berms. The predominant upland use is low density residential. Other uses include institutional (Norfolk International Airport and Larrymore Elementary School on Lake Whitehurst, Lake Taylor Middle School and Lake Taylor City Hospital), recreational (Norfolk Botanical Gardens on Lake Whitehurst, Lake Smith Bait and Tackle Shop fishing area, Little Creek Reservoir fishing station, Lake Wright Golf Course, Met Park on Lake Wright and Stumpy Lake Golf Course), highway (Shore Drive along the northern end of Little Creek Reservoir and Lake Whitehurst) and unmanaged woodland.

INDIGENOUS FLORA AND FAUNA

Vegetation along the undeveloped shorelines of the lakes consists primarily of upland forest. Stumpy Lake is unique in that it is partially surrounded by hardwood swamp and a portion of the Lake is covered by the rare American Lotus. The lakes support a variety of wading birds and migratory waterfowl. They also support a diversity of freshwater finfish, reptiles and amphibians. Lake Smith and Lake Whitehurst are stocked with walleye, white bass and channel catfish.

APPROPRIATE RECREATIONAL ACTIVITIES

Fishing (boat and shore) and canoeing. Public access for these activities is not available at Stumpy Lake, Lake Taylor or Lake Wright.

SWIMMING BEACHES

None - swimming is not permitted.

FISHING ACCESS

Opportunities for fishing in the lakes are limited due to their status as water supply impoundments. There is no public access to Stumpy Lake, Lake Taylor or Lake Wright. A public boat ramp and boat rental concession on Lake Smith provides

boating access to both Lake Smith and Lake Lawson. There is also a public boat ramp and boat rental concession on Little Creek Reservoir which provides boating access to both the Little Creek Reservoir and Lake Whitehurst. Shore fishing is also limited. Public access for shore fishing is possible at the Lake Smith Bait and Tackle Shop fishing area and from the fishing islands and piers at the Norfolk Botanical Gardens. A Norfolk City fishing permit, in addition to a State license, is required for both boat and shore fishing.

POSSIBLE BOATING CONSTRAINTS

No public access to Stumpy Lake, Lake Taylor and Lake Wright, an annual boating permit required, no boating after sunset, sailboats and boats with motors greater than twelve horsepower are prohibited, shallow water especially during droughts, submerged tree stumps, and poisonous snakes in nearshore areas.

RECREATIONAL MARINA SLIPS AND BOAT RAMPS

- Lake Smith Bait and Tackle Shop, one ramp (public).
- Little Creek Reservoir Landing, one ramp (public).

PUBLICLY ACCESSIBLE CANOE PUT-IN/TAKE-OUT POINTS

See boat ramps listed above.

SUFFOLK RESERVOIR SYSTEM

LOCATION AND DESCRIPTION

The Suffolk Reservoir System, shown in Figure 19, is a system of ten lakes located in the city of Suffolk. Nine of these lakes are located in Lone Star Lakes Park. The tenth lake, Crumps Mill Pond, is located to the west of the Park. The lakes in Lone Star Lakes Park were formed by a marl mining operation carried out by the Lone Star Mining Company between the 1920s and 1970s. Only four of the lakes (Butler Tract, Crystal Lake, Lake Annette and Southern Lakes) are currently used as water supply impoundments.

TRIBUTARIES AND RELATED WATER BODIES

1. Finger Lake
2. Crane Lake
 - Chuckatuck Creek (see page 43)
3. Butler Tract
4. Lake Annette
5. Crystal Lake
6. Rainbow Lake
7. Cedar Lake
 - Cedar Creek
8. Lake Wahoo
9. Southern Lakes
10. Crumps Mill Pond



BUTLER TRACT

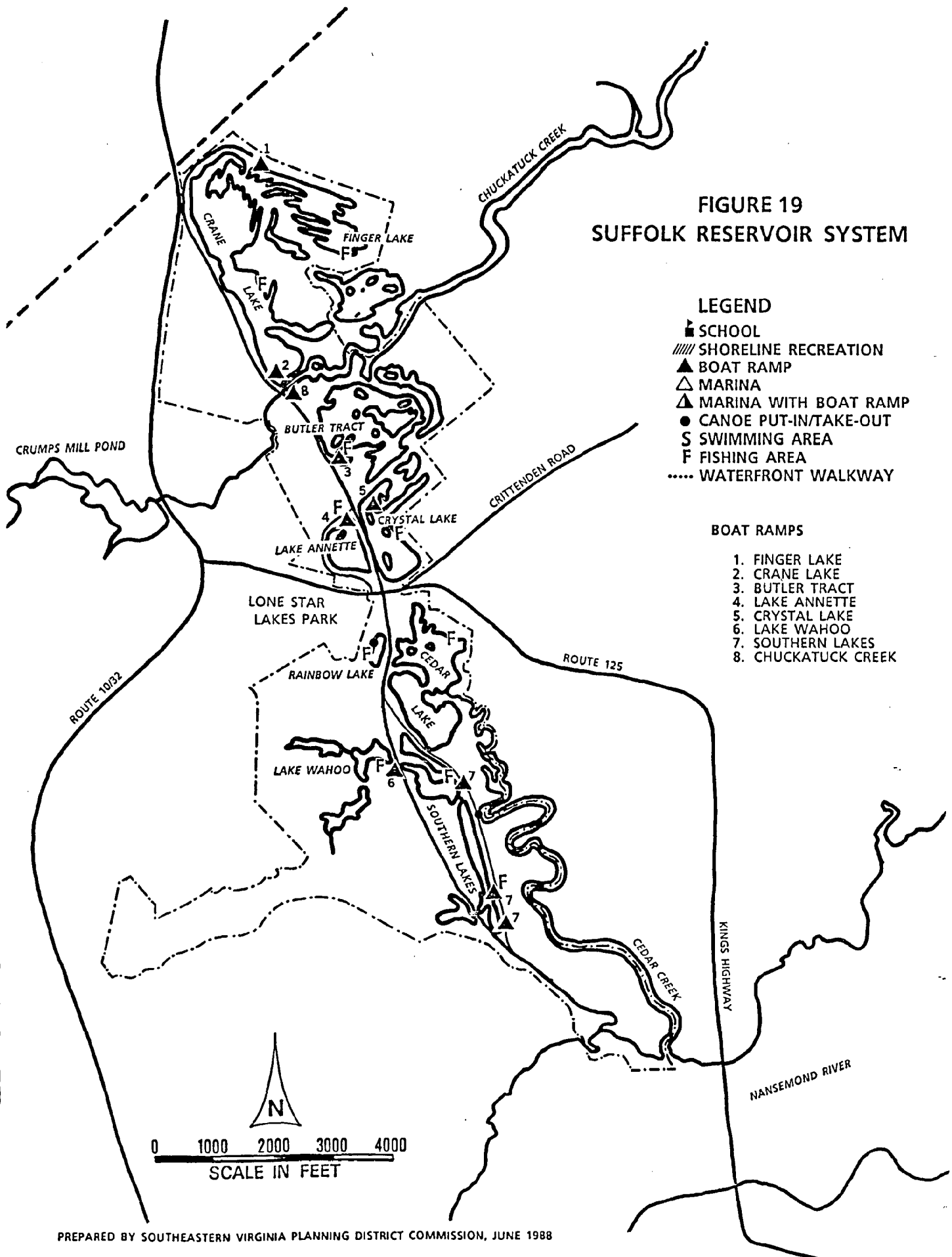
SIZE

Total Water Area: approximately 500 acres

DEPTH

The average depths of the Lone Star Lakes range from 20-60 feet. Depths as great as 80 feet have been recorded in Crane Lake.

**FIGURE 19
SUFFOLK RESERVOIR SYSTEM**



WIND AND TIDES

Crane Lake, which is fed by Chuckatuck Creek, is the only lake in the system influenced by lunar tides. Surface waters are not significantly affected by wind conditions.

SHORELINE CHARACTERISTICS

The immediate shorelines consist primarily of wooded or brush covered banks. There are also small areas of shoreline that consist of creek marsh. The predominant upland use is unmanaged woodland. Other uses include agriculture and recreation (picnic areas, trails, boat ramps and shore fishing areas).

INDIGENOUS FLORA AND FAUNA

Vegetation along the undeveloped shorelines of the lakes consists primarily of upland forest. There are also small areas of marsh grass. These lakes support a variety of wading birds and migratory waterfowl. They also support a variety of freshwater and brackish water finfish, reptiles and amphibians. Freshwater clams are also abundant. Butler Tract, Crystal Lake, Lake Annette, Southern Lakes, Rainbow Lake and Lake Wahoo have been stocked with redear and northern pike.

APPROPRIATE RECREATIONAL ACTIVITIES

Fishing (boat, shore and pier), canoeing, sailing and wildlife observation.

SWIMMING BEACHES

None - swimming is not permitted.

FISHING ACCESS

Because four of the lakes are water supply impoundments, opportunities for fishing are limited. Access for boat fishing is possible at public boat ramps and canoe put-in points found throughout the Lone Star Lakes. Public access for shore fishing is possible at designated fishing areas on Rainbow Lake and Chuckatuck Creek, and at the two picnic areas on the Southern Lakes. Pier fishing is possible at the 40 foot "Senior Citizens'" pier on Crane Lake and at a 20 foot pier on Cedar Creek. Fishing is also possible from several floating docks located throughout the lakes. A park fishing permit, in addition to a State fishing license, is required for all lakes.

POSSIBLE BOATING CONSTRAINTS

A park boating or fishing permit is required, boating is prohibited in Crumps Mill Pond, gasoline powered boats are prohibited, most boat ramps are steep and enter very deep water, which makes boat launching somewhat risky, no boating after sunset, and poisonous snakes in nearshore areas.

RECREATIONAL MARINA SLIPS AND BOAT RAMPS

- Finger Lake, one dirt ramp (public).
- Crane Lake, one paved ramp (public).
- Butler Tract, one dirt ramp (public).
- Lake Annette, one paved ramp (public).
- Crystal Lake, one dirt ramp (public).
- Lake Wahoo, one dirt ramp (public).
- Southern Lakes, three dirt ramps (public).
- Chuckatuck Creek, one dirt ramp (public).

PUBLICLY ACCESSIBLE CANOE PUT-IN/TAKE-OUT POINTS

- Boat ramps listed above.
- Rainbow Lake, formal access (parking - City Park lots).
- Cedar Creek, formal access (parking - City Park lots).

NORFOLK WESTERN RESERVOIR SYSTEM

LOCATION AND DESCRIPTION

The Norfolk Western Reservoir System is shown in Figure 20. This System consists of three water supply impoundments owned and managed by the City of Norfolk and located in the City of Suffolk and Isle of Wight County. These impoundments were formed by damming tributaries of the Nansemond River.

TRIBUTARIES AND RELATED WATER BODIES

1. Lake Burnt Mills
 - Great Swamp
 - Murphy's Millpond
2. Western Branch Reservoir
 - Western Branch
3. Lake Prince
 - Corbell Swamp
 - Branch and Joyner Millpond
 - Ennis Mill Run



LAKE PRINCE FISHING STATION

SIZE

Lake Burnt Mills: 711 acres

Western Branch Reservoir: 1,615 acres

Lake Prince: 946 acres

DEPTH

Lake Burnt Mills: 35 feet (maximum)

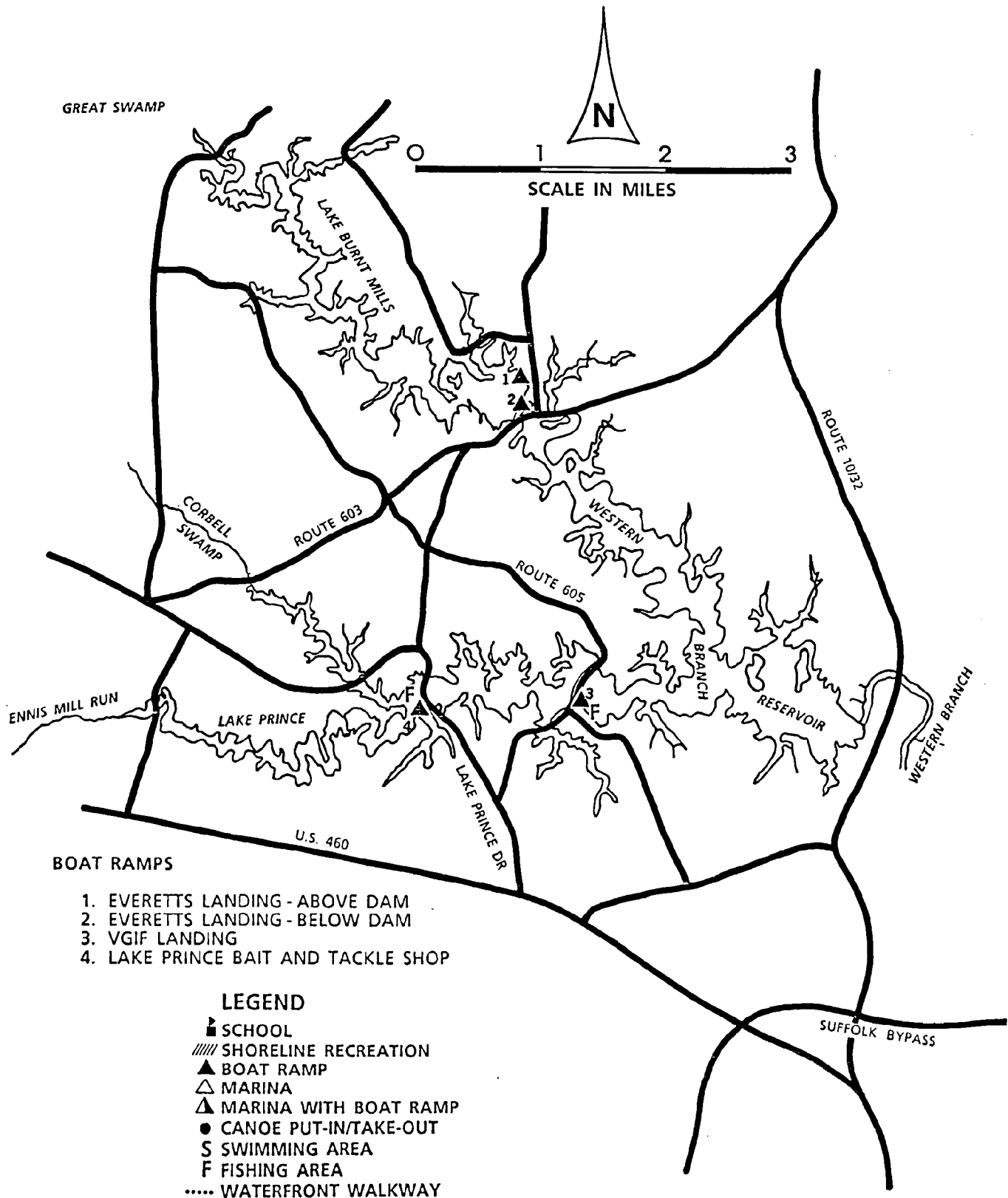
Western Branch Reservoir: 26 feet (maximum)

Lake Prince: 30 feet (maximum)

WIND AND TIDES

The Norfolk Western Reservoirs are non-tidal and surface waters are not significantly affected by wind conditions.

FIGURE 20
NORFOLK-WESTERN RESERVOIR SYSTEM



SHORELINE CHARACTERISTICS

The immediate shorelines of the reservoirs consist primarily of wooded or brush covered banks. The predominant upland use is unmanaged woodland. Other uses include agriculture (cropland and pasture), residential and recreational (public launching ramps and Lake Prince Bait and Tackle Shop fishing area).

INDIGENOUS FLORA AND FAUNA

Vegetation along the undeveloped shorelines of the reservoirs consists primarily of upland forest. These lakes support a variety of wading birds and migratory waterfowl. They also support 22 species of freshwater finfish and a diversity of reptiles and amphibians. The lakes are stocked with striped bass (Lake Prince and Western Branch Reservoir only), walleye, northern pike and muskie.

APPROPRIATE RECREATIONAL ACTIVITIES

Fishing (boat and shore), and canoeing.

SWIMMING BEACHES

None - swimming is not permitted.

FISHING ACCESS

Opportunities for fishing the lakes are limited due to their status as water supply impoundments. Access for boat fishing is possible at public boat ramps found on each lake and at boat rental concessions found on Lake Prince and Western Branch Reservoir. Shoreline fishing is not permitted on Lake Burnt Mills. Public access to the shoreline for fishing is possible at the Lake Prince and Western Branch Reservoir fishing stations. A Norfolk City fishing permit and a Virginia State license are required for both boat and shore fishing.

POSSIBLE BOATING CONSTRAINTS

An annual boating permit is required for private boats, sailboats, and boats with motors greater than twelve horsepower are prohibited, no boating after sunset, shallow water especially during droughts, low clearance under Route 603 Bridge on Western Branch Reservoir, submerged tree stumps, and poisonous snakes in nearshore areas.

RECREATIONAL MARINA SLIPS AND BOAT RAMPS

1. Burnt Mills Lake
 - Everetts Landing (above the Burnt Mills Dam), one ramp (public).

2. Western Branch

- Everetts Landing (below the Burnt Mills Dam), one ramp (public).
- VGIF Landing (on Route 605), one ramp (public).

3. Lake Prince

- Lake Prince Bait and Tackle Shop, one ramp (public).

PUBLICLY ACCESSIBLE CANOE PUT-IN/TAKE-OUT POINTS

See boat ramps listed above.

PORTSMOUTH RESERVOIR SYSTEM

LOCATION AND DESCRIPTION

The Portsmouth Reservoir System is shown in Figure 21. This system consists of four water supply impoundments owned and operated by the City of Portsmouth and located in the City of Suffolk. These impoundments were formed by damming tributaries of the Nansemond River.

TRIBUTARIES AND RELATED WATER BODIES

1. Lake Meade
 - Murphy Pond
 - Sadler Pond
 - Nansemond River (see page 39)
2. Lake Cohoon
 - Eley Swamp
 - Cohoon Creek
3. Lake Kilby
4. Lake Speights Run



LAKE MEADE FROM RIVERVIEW DRIVE

SIZE

Lake Meade: 512 acres
Lake Cohoon: 510 acres
Lake Kilby: 222 acres
Lake Speights Run: 197 acres

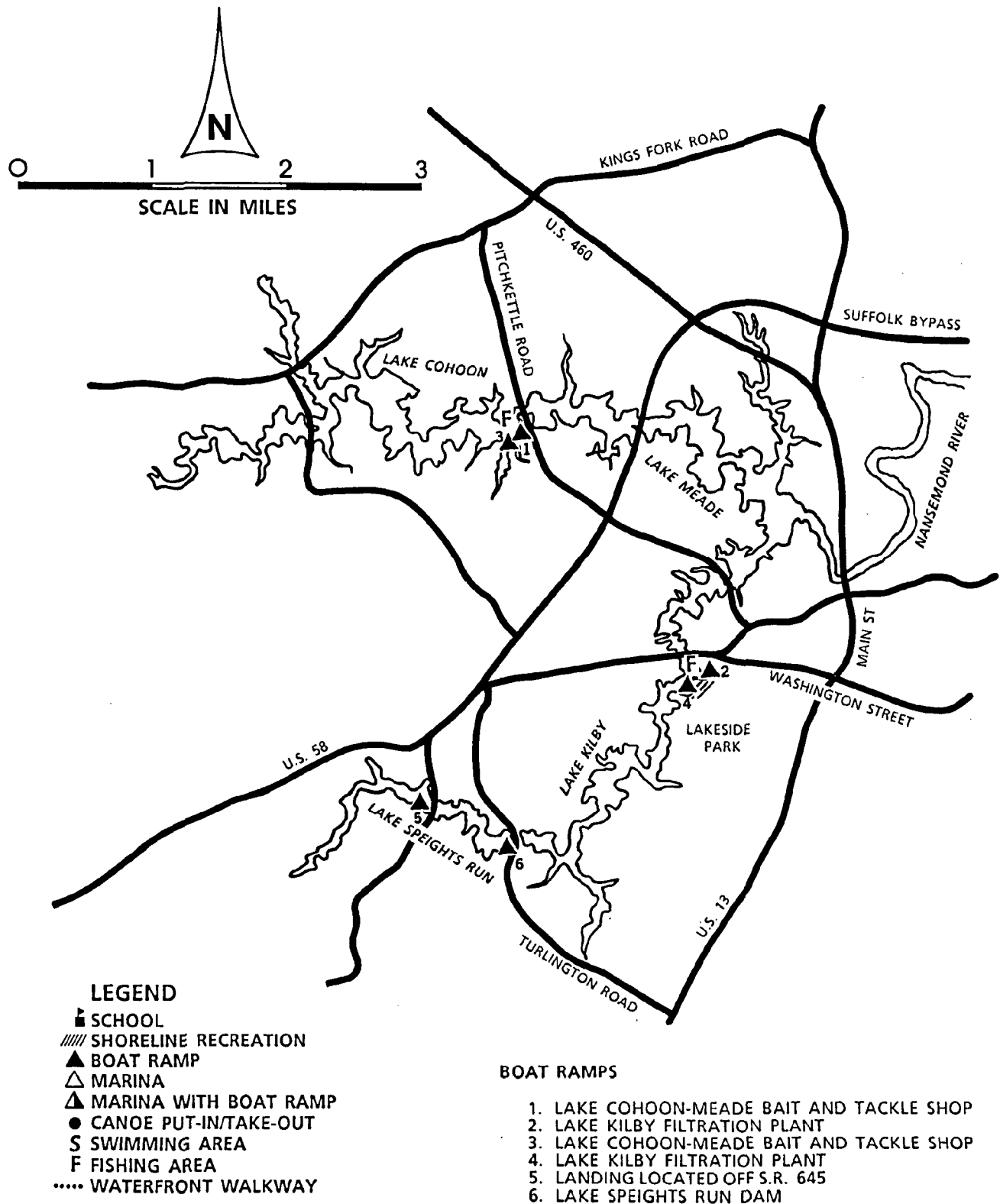
DEPTH

Lake Meade: approximately 15-20 feet
Lake Cohoon: approximately 15-30 feet
Lake Kilby: approximately 17-25 feet
Lake Speights Run: approximately 13-20 feet

WIND AND TIDES

These reservoirs are non-tidal and surface waters are not significantly affected by wind conditions.

**FIGURE 21
PORTSMOUTH RESERVOIR SYSTEM**



SHORELINE CHARACTERISTICS

The immediate shorelines of the reservoirs consist primarily of steep, wooded or brush covered banks. The predominant upland use is unmanaged woodland. Other uses include agriculture (cropland and pasture), residential, recreational (public launching ramps and public shoreline fishing areas, and Suffolk Golf Course and Lakeside Park on Lake Kilby), industrial (manufacturing plants on each side of Lake Meade just north of West Washington Street, quarry operations on Lake Cohoon and Lake Kilby) and institutional (Forest Glen High School on Lake Speights Run).

INDIGENOUS FLORA AND FAUNA

Vegetation along the undeveloped shorelines of the reservoirs consists primarily of upland forest. These lakes support a variety of wading birds and migratory waterfowl. They also support a variety of freshwater finfish, reptiles and amphibians. The lakes are stocked with largemouth bass, striped bass (Lake Meade only), black crappie, bream, northern pike (Lake Kilby only), flyers, bluegill, chain pickerel, channel crappie, pumpkinseed, redear, warmouth, white catfish, channel catfish and perch.

APPROPRIATE RECREATIONAL ACTIVITIES

Fishing (boat and shore) and wildlife observation.

SWIMMING BEACHES

None - swimming is not permitted.

FISHING ACCESS

Opportunities for fishing the lakes are limited due to their status as water supply impoundments. Access for boat fishing is possible at public boat ramps on all lakes and boat rental concessions on all lakes except Lake Speights Run. Public access for shore fishing is possible only in designated areas adjacent to the Lake Cohoon and Lake Kilby dams. A Portsmouth City fishing permit, in addition to a State license, is required for boat and shore fishing. Fishing on Sunday is not permitted from October 31 to March 31, and Lake Cohoon is closed for fishing from December 15 to January 2 each year.

POSSIBLE BOATING CONSTRAINTS

An annual boating permit is required to keep private boats at any of the lakes, boating is allowed for fishing only, boat motors greater than ten hp. are prohibited, no boating after sunset, shallow water especially during droughts, submerged tree stumps, and poisonous snakes in nearshore areas.

RECREATIONAL MARINA SLIPS AND BOAT RAMPS

1. Lake Meade
 - Lake Cohoon-Meade Bait and Tackle Shop (below the Lake Cohoon Dam), one ramp (public).
 - Lake Kilby Filtration Plant (below Lake Kilby Dam), one ramp (public).
2. Lake Cohoon
 - Lake Cohoon-Meade Bait and Tackle Shop (above Lake Cohoon Dam), one ramp (public).
3. Lake Kilby
 - Lake Kilby Filtration Plant (above Lake Kilby Dam), one ramp (public).
4. Lake Speights Run
 - Landing located off of Route 645, one dirt ramp (public).
 - Lake Speights Run Dam, one ramp (public).

PUBLICLY ACCESSIBLE CANOE PUT-IN/TAKE-OUT POINTS

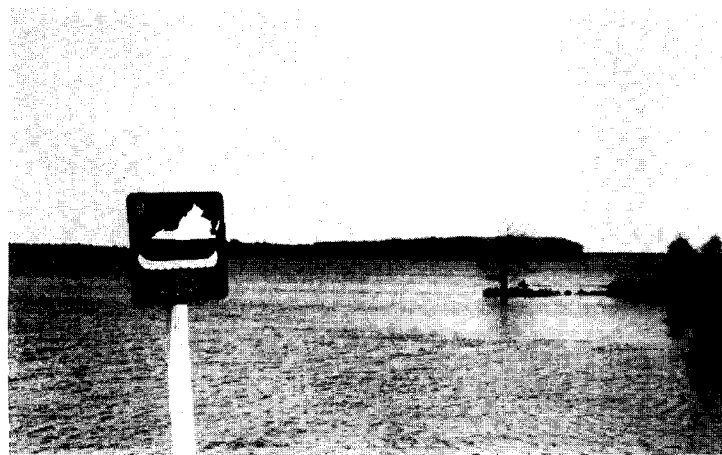
See boat ramps listed above.

PROPOSED REGIONAL SCENIC WATERWAYS SYSTEM

This section proposes a regional scenic waterway system that would exploit the vast recreational potential of the region's water bodies. Such a system would be designed to serve canoeists and users of other small, non-motorized craft. The system would not only provide the region's residents with additional recreational opportunities, but would also be a valuable asset to Southeastern Virginia's tourist industry.

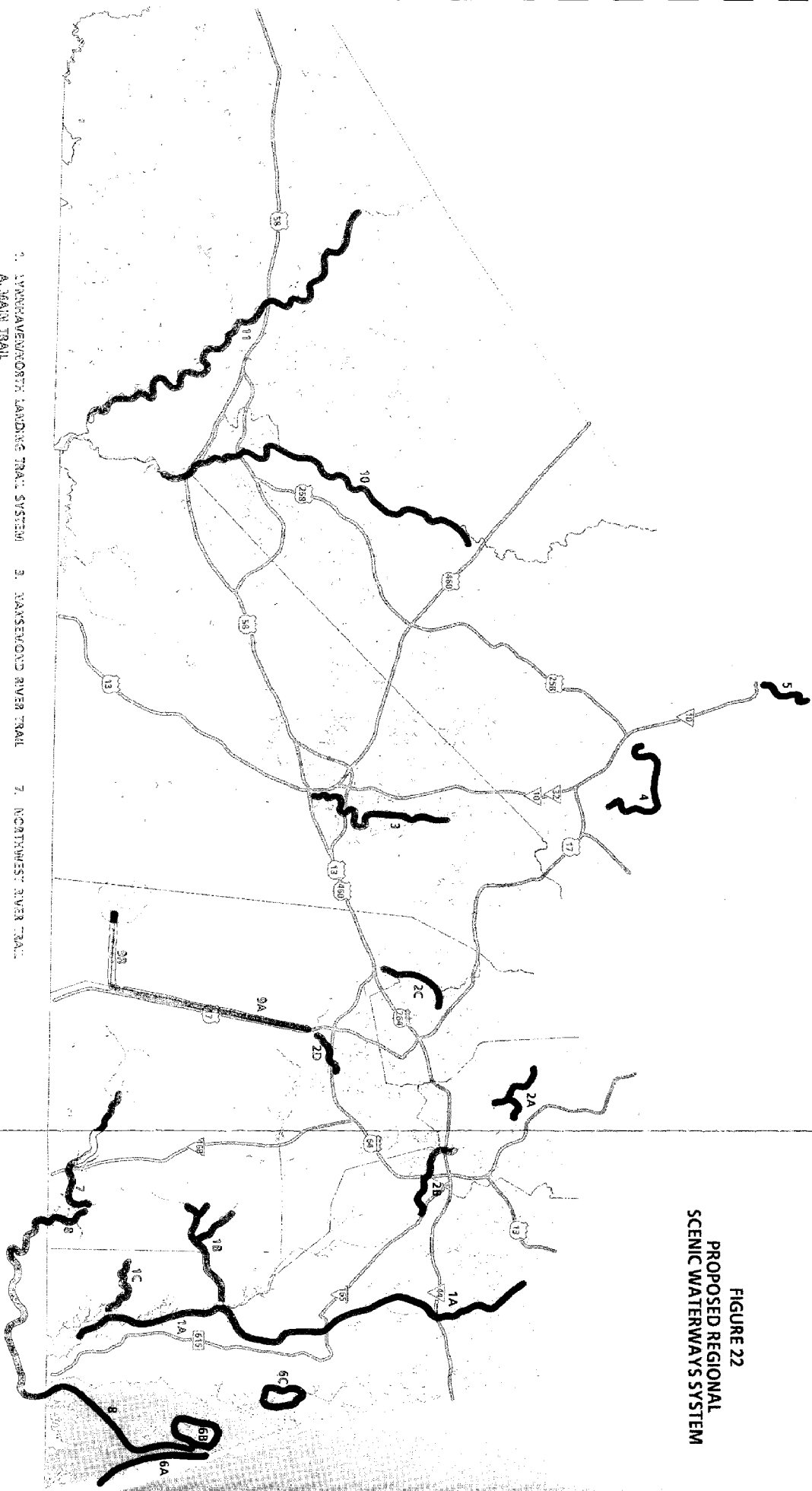
For a trail to be included in the proposed scenic waterway system, alternatives were evaluated against several criteria. These criteria include the presence of access points at both ends; unique scenic, natural and/or recreational attributes; and reasonably safe conditions for users. All waterways that are included or have been found to qualify for inclusion in a local or State scenic waterways system were automatically incorporated into the proposed regional system. The Cities of Virginia Beach and Chesapeake have both adopted scenic waterway programs and several of the region's streams have either been added to or found to qualify for the State Scenic River System.

The following section provides brief descriptions of the trails comprising the proposed regional scenic waterways system. Each description provides a general overview of the trail as well as specific information regarding the route, length, average travel time and access points. The reader is referred to the inventory contained in the first chapter of this Waterways Guide for more detailed information regarding individual waterways. Figure 22 shows the locations of the proposed trails and the locations of existing boat access points.



NORTH LANDING RIVER

FIGURE 22
PROPOSED REGIONAL
SCENIC WATERWAYS SYSTEM



0 1 2 3 4 5 6
SCALE IN MILES

LYNNHAVEN/NORTH LANDING TRAIL SYSTEM

The City of Virginia Beach has officially endorsed the concept of a citywide system of canoe trails. The spine of this system would be a continuous waterway trail following the Lynnhaven River, London Bridge Creek, West Neck Creek and the North Landing River from Lynnhaven Inlet to Munden Point City Park. Other waterways that are tributary to this main trail, including Pocaty Creek and Blackwater Creek, are also included in the proposed system. West Neck Creek was officially designated as the first segment of the City Scenic Waterways System and was formally opened in 1986.

In addition to Virginia Beach's recognition of the Lynnhaven/North Landing Trail System as part of its waterways system, the City of Chesapeake has included a portion of Pocaty Creek in its Scenic Waterways System. The State added West Neck Creek, Pocaty Creek, Blackwater Creek and a portion of the North Landing River to its Scenic River System in 1988.

The Lynnhaven/North Landing Trail System is unique in that it passes through a variety of environments, including tidal marshes, dense suburban development and hardwood swamps. Trail users should be cautious of heavy power boat traffic and rough water conditions in the downstream areas of the Lynnhaven and North Landing Rivers.

ROUTE

From Lesner Bridge up the Lynnhaven River to London Bridge Creek which becomes West Neck Creek, down West Neck Creek to the North Landing River and down the North Landing River to Munden Point City Park. Side trips can be taken up Pocaty Creek and Blackwater Creek.

DISTANCE

Main Trail: 28.5 miles
Pocaty Creek: 5.0 miles
Blackwater Creek: 4.2 miles

AVERAGE TRIP TIME

8-12 hours (main trail)

ACCESS POINTS

Main Trail

Lesner Bridge (City sand disposal site)
Marina Boat Ramps on Long Creek

Watergate Lane Landing
Bow Creek Boulevard
Lynnhaven Parkway
Swallow Drive
Magic Hollow Boulevard
Blackstone Trail
Shipps Corner Road Bridge
Princess Anne Road Bridge
Indian River Road Bridge
West Neck Road Bridge
West Neck Marina
Seneca Campground
Pungo Ferry Landing
Captain George's Restaurant and Marina

Pocaty Creek

Blackwater Road Bridge
Silvertown Avenue Bridge
Long Ridge Road Bridge
Fentress Airfield Road Bridge (South Fork of Creek)
Land of Promise Road Bridge
Fentress Airfield Road Bridge (North Fork of Creek)

Blackwater Creek

Blackwater Creek Store
Bradley's Landing
Head River Road

ELIZABETH RIVER TRAIL SYSTEM

Due to heavy military, commercial and recreational vessel traffic and rough conditions in exposed areas, most of the Elizabeth River system is unsuitable for canoeing. Some of the upstream areas do provide canoeing opportunities through tidal marshes fronting mainly suburban residential areas. Deep Creek, a tributary of the Southern Branch, is one of these areas and is a component of the City of Chesapeake's Scenic Waterways System. Significant power boat traffic may be encountered on these trails.

ROUTES

Lafayette River Trail

From 45th Street City Landing on Knitting Mill Creek upstream to either Villa Circle on the south branch, or to the Norview Avenue Bridge on the north branch.

Eastern Branch Trail

From Piney Branch Court on Broad Creek, downstream to the Eastern Branch, then upstream to Princess Anne Road Bridge.

Western Branch Trail

From Portsmouth City Park upstream to Airline Boulevard Bridge.

Deep Creek Trail

From Deep Creek Locks Park downstream towards the Southern Branch of the Elizabeth River. There are no suitable take-out points in the downstream portions of the Creek, so a round trip will be necessary.

DISTANCES

Lafayette River Trail: 2.5 miles (south branch), 3.8 miles (north branch)
Eastern Branch Trail: 6.0 miles
Western Branch Trail: 4.5 miles
Deep Creek Trail: 8.0 miles (round trip)

AVERAGE TRIP TIMES

Lafayette River Trail: approximately 1-2 hours (north and south branches)
Eastern Branch Trail: 2-3 hours
Western Branch Trail: 1-2 hours
Deep Creek Trail: 2-4 hours

ACCESS POINTS

Lafayette River Trail

45th Street City Landing
Mayflower Road
Haven Creek City Landing
Granby Street Bridge
Lucile Avenue (south branch)
Lafayette Park City Landing (south branch)
Villa Circle (south branch)
Norview Avenue Bridge (north branch)

Eastern Branch Trail

Piney Branch Court
West Cove Court
Riveredge Road
Berkshire Drive (next to Military Highway Bridge)
Princess Anne Road Bridge

Western Branch Trail

Portsmouth City Park
Airline Boulevard Bridge

Deep Creek Trail

Deep Creek Locks Park
Fireman Street (Gilmerton Canal)

NANSEMOND RIVER TRAIL

The upstream areas of the Nansemond River offer canoeists an easy paddle through tidal marshes which front mostly farmland and woodland. Significant power boat traffic may be encountered on this trail.

ROUTE

From Constants Wharf City Ramp in downtown Suffolk downstream to Cedar Creek, then up Cedar Creek to Lone Star Lakes City Park.

DISTANCE

11.2 miles

AVERAGE TRIP TIME

3-5 hours

ACCESS POINTS

Constants Wharf City Ramp
U.S 58 Bridge (Shingle Creek)
Wilroy Road Bridge (Burnetts Mill Creek)
Brady's Marina
Cedar Creek Landing in Lone Star Lakes Park

PAGAN RIVER TRAIL

This trail runs through extensive tidal marshes bordering the Pagan and its main tributary, Jones Creek. Canoeists should be cautious of rough water conditions near the confluence of the Pagan and Jones Creek. Also, at times there may be significant power boat traffic in the Pagan and in the downstream areas of Jones Creek.

ROUTE

From the old Church Street (Route 10) Bridge abutment in Smithfield down the Pagan to its confluence with Jones Creek. Up Jones Creek to Carrollton Nike Park.

DISTANCE

7.2 miles

AVERAGE TRIP TIME

2-3 hours

ACCESS POINTS

Pagan River

Old Church Street (Route 10) Bridge Abutment

Jones Creek

Rescue Marina
Fulgham Bridge (Route 669)
Carrollton Nike Park

LAWNES CREEK TRAIL

This trail provides access to an isolated, scenic area characterized by brackish and freshwater marshes and extensive woodlands.

ROUTE

From Hog Island Wildlife Management Area upstream to Burnt Mills Bridge (Route 628).

DISTANCE

5.3 miles

AVERAGE TRIP TIME

1-3 hours

ACCESS POINTS

Hog Island Wildlife Management Area Landing
Burnt Mills Bridge (Route 628)

BACK BAY TRAIL SYSTEM

The Back Bay is a component of the Virginia Beach Scenic Waterways System, discussed above under the Lynnhaven/North Landing Trail System. The Bay offers the canoeist relative isolation, natural scenery and numerous opportunities to observe wildlife. The options for trail routes in the Back Bay System are unlimited. Three trails have been selected that would expose canoeists to the Bay's varied environments including open Bay waters, wooded islands, extensive brackish water marsh systems and manmade canals traversing unmanaged woodland.

Trail users should be made aware that adverse weather conditions may result in hazardous wind and wave conditions along trails passing through open Bay waters, and shallow water in near shore areas as a result of wind tides.

ROUTES

False Cape Trail

From National Wildlife Refuge headquarters south along eastern shore of Bay to False Cape Landing boat docks. There is no auto access to False Cape State Park so a return trip will be necessary.

Long Island Trail

From National Wildlife Refuge headquarters, through a cut in the neck of Long Island, around southern end of Long Island and back to Refuge Headquarters.

Hell Point Creek Trail

A circuit starting and ending at Lotus Gardens City Park. From the Park, south along Asheville Bridge Creek to Muddy Creek. Down Muddy Creek to North Bay. Along the north shore of North Bay to Hell Point Creek. Up Hell Point Creek to Asheville Bridge Creek. Down Asheville Bridge Creek to Lotus Gardens Park.

DISTANCE

False Cape Trail: 12 miles round trip
Long Island Trail: 5.6 miles
Hell Point Creek Trail: 5.4 miles

AVERAGE TRIP TIMES

False Cape Trail: 3-5 hours
Long Island Trail: 1-3 hours
Hell Point Creek Trail: 1-3 hours

ACCESS POINTS

False Cape Trail

National Wildlife Refuge Headquarters

Long Island Trail

National Wildlife Refuge Headquarters

Hell Point Creek Trail

Lotus Gardens City Park
Sandbridge Road Bridge

NORTHWEST RIVER TRAIL

This trail combines two trails found in the Chesapeake Scenic Waterways System. The trail begins as a narrow winding creek and ends as a broad river. Shoreline is almost completely undeveloped and consists primarily of hardwood swamps. In the summer, power boats, insects and poisonous snakes may cause problems for canoeists.

ROUTE

From Bunch Walnuts Road Bridge downstream to Indian Creek. Up Indian Creek to Indian Creek Road Bridge.

DISTANCE

11 miles

AVERAGE TRIP TIME

3-5 hours

ACCESS POINTS

Bunch Walnuts Road Bridge
Battlefield Boulevard (Route 168) Bridge
Bob's Fishing Hole
Indian Creek Road Bridge

NORTHWEST TO BACK BAY TRAIL

This long distance trail is suitable for experienced canoeists only. The distance involved would require considerable endurance, and crossing the open waters of the lower North Landing River and the Back Bay would require significant navigation and paddling skills. The rewards to the experienced canoeist would be not only the satisfaction of completing such a challenging trail, but also the opportunity to experience the isolation and natural scenery provided by the component waterways. Severe wind may make portions of this trail impassable by generating dangerous wave conditions in open waters or by creating shallow water conditions in near shore areas during extreme wind tides.

ROUTE

From the Indian Creek Road Bridge, down the Northwest River into North Carolina to the confluence of the Northwest and North Landing Rivers. Across the mouth of the North Landing River and through Coreys Ditch on the eastern side of Knotts Island which connects the North Landing River with the Back Bay. Across the Back Bay to the National Wildlife Refuge headquarters, or to Little Island City Park if trip requires overnight parking.

DISTANCE

Approximately 30 miles.

AVERAGE TRIP TIME

10-15 hours

ACCESS POINTS

Indian Creek Road Bridge
Knotts Island Causeway
VGIF Pocahontas/Trojan Landing
Back Bay National Wildlife Refuge Headquarters
Little Island City Park

DISMAL SWAMP TRAIL SYSTEM

This system consists of two trails that run adjacent to and within the Great Dismal Swamp National Wildlife Refuge. Both of these trails are included in the Chesapeake Scenic Waterways System. Because of its unique location, the system offers excellent opportunities to observe the natural environment. The two trails in the system consist of three interconnected water bodies: the Dismal Swamp Canal and the Feeder Ditch, two manmade canals, and Lake Drummond, one of only two natural lakes in the State of Virginia.

Possible canoeing constraints within this system include a short portage along the Feeder Ditch at the COE Lake Drummond Reservation, and insects and poisonous snakes during the warmer months.

ROUTES

Dismal Swamp Canal Trail

From Deep Creek Locks Park south to VGIF Dismal Swamp Landing.

Feeder Ditch Trail

From VGIF Dismal Swamp Landing south along Dismal Swamp Canal to Feeder Ditch. West along Feeder Ditch, portage at COE locks and continue into Lake Drummond. Due to long road distances back to the trail's starting point and FWS ramp use permit regulations, the Wildlife Refuge boat ramp on Lake Drummond is not a suitable trail terminus. Therefore, a return trip will be necessary.

DISTANCES

Dismal Swamp Canal Trail: 9.5 miles
Feeder Ditch Trail: 7.0 miles round trip

AVERAGE TRIP TIMES

Dismal Swamp Canal Trail: 2-4 hours
Feeder Ditch Trail: 2-3 hours

ACCESS POINTS

Deep Creek Locks Park
Numerous locations along U.S. 17 including six maintained waysides
VGIF Dismal Swamp Landing

BLACKWATER RIVER TRAIL

This proposed trail winds through a remote, heavily forested area that abounds with wildlife. The upstream portion of the trail is characterized by a braided, twisted channel bordered by hardwood swamp. The lower portion of the trail follows a well-defined channel bounded by 5-40 foot bluffs. The upstream portion of this trail has been found to qualify for inclusion in the Virginia Scenic River System.

Possible canoeing constraints along this trail include a difficult to follow channel in upstream areas, commercial vessel traffic south of Franklin, and low water, insects and poisonous snakes during warmer months.

ROUTE

From Route 614 Bridge over Antioch Swamp near Zuni downstream past Franklin to Old South Quay (a small dirt landing adjacent to Route 189).

DISTANCE

Approximately 28 miles.

AVERAGE TRIP TIME

8-12 hours

ACCESS POINTS

Route 614 Bridge (Antioch Swamp)
Blackwater Bridge (Route 603) VGIF Landing
Joyners Bridge (Route 611)
Old South Quay (Route 189)

NOTTOWAY RIVER TRAIL

Like the proposed Blackwater River Trail, the Nottoway River Trail would pass through isolated and scenic swamp and upland forested areas. Possible canoeing constraints include timber snags in upstream areas, power boat activity in downstream areas, and insects and poisonous snakes during warmer months.

ROUTE

From the VGIF Careys Landing (Route 653) downstream to the VGIF General Vaughan Bridge Landing (U.S. 258).

DISTANCE

Approximately 29 miles

AVERAGE TRIP TIME

8-12 hours

ACCESS POINTS

VGIF Careys Landing (Route 653)
Terminus of Route 742
VGIF Hercules Landing (Route 671)
Monroe Bridge (Route 684)
VGIF General Vaughan Bridge Landing (U.S. 258)

OTHER WATER BODIES SUITABLE FOR CANOEING

There are a number of lakes in Southeastern Virginia which, because of size and/or configuration, are not favorable for the development of waterway trails. These lakes, however, do offer excellent canoeing opportunities and should be included in a regional scenic waterway system. Lakes which might qualify for inclusion in a regional system include Lake Smith, Lake Lawson, Lake Whitehurst and Little Creek Reservoir in the Norfolk In-Town Reservoir System; the Lone Star Lakes in the Suffolk Reservoir System; all lakes in the Norfolk Western Reservoir System; and all lakes in the Portsmouth Reservoir System.

SYSTEM DEVELOPMENT ISSUES

There are a number of issues that would need to be addressed in the development of a regional scenic waterways system. The following is a discussion of these issues.

WATERWAY USE CONFLICTS

The intended use of the proposed regional scenic waterway system is for canoes and similar small, non-motorized craft. The proposed waterway trails may also be used for other recreational activities which may not always be compatible with canoeing. The most notable conflicts would occur between canoeists and power boaters, water skiers or possibly hunters. In areas where such conflicts might occur, signs should be posted warning all waterway users of potential conflicts. Along some of the narrower waterway trails that are suitable only for canoeing, it may be necessary to prohibit power boating. Consideration should also be given to regulating boat speeds or wakes, and/or designating separate channels for canoeists.

SHORELINE USE CONFLICTS

Although all of the waterways included in the proposed regional trail system are publicly owned, the vast majority of the shoreline bordering these waterways is in private ownership. This situation may lead to instances of trespassing on private land by trail users. Trespassing may occur when trail users are trying to gain access to or leave a waterway, or when the shoreline is used for such activities as picnicking or camping. Such activities may lead to littering and vandalism, and may cause local property owners to resent the presence of the trail system. To avoid these problems, private land should be posted both along the waterway and at locations that appear to be access points, but are privately owned. In addition, promotional brochures and maps should stress the importance of respecting private land.

SAFETY

There are many potential hazards associated with the use of a regional scenic waterways system. One of these hazards, waterway use conflicts, is discussed above. Other possible hazards include rough wind and wave conditions, poisonous snakes and plants, over-exposure to heat or cold, low bridges and unsafe culverts, disorientation, and hunting activities. Due to the remoteness of many of the proposed trails, it may be difficult for a trail user in trouble to obtain help, and it may also be difficult for rescue personnel to respond quickly to an emergency situation. It is therefore extremely important that all promotional material emphasize the need for being adequately prepared when undertaking any canoe trip, especially those in remote areas. It would appear appropriate to assign skill levels to each trail to discourage inexperienced canoeists from attempting canoe trips for which they are unprepared.

MAINTENANCE

The safety and recreational potential of a waterway trail will depend on how well it is maintained. Weeds, logs and brush, and trash will collect in waterways and may obstruct passage. Periodic maintenance will be needed to remove any obstructions and to keep a trail attractive. In addition, any facilities built to support the waterways system (put-in/take-out points, parking areas, picnic areas, restrooms and litter receptacles) will require regular maintenance. Consideration should be given to establishing a volunteer program to assist local governments in these efforts. Such a program has been fairly successful during the establishment of the Virginia Beach Scenic Waterway System.

PROMOTION

The success of the proposed regional scenic waterway system will be largely dependent on how well it is promoted. Promotional campaigns might be targeted at local residents or tourists. Strategies that might be used to promote the regional scenic waterways system include the following:

- Develop systemwide and trail specific brochures and maps.
- Inaugurate trails with ribbon cutting ceremonies. Formally invite government officials, representatives from local civic and user groups, and the press.
- Prepare a slide show which promotes the regional waterways system and encourages safe usage. This slide show could be shown to civic groups and organized user groups or at tourist information centers.
- Conduct guided waterway tours. These tours might have themes such as canoeing for beginners, wildlife or plant study, photography or fishing.
- Sponsor and/or organize canoe races.
- Print a map of the regional waterways system on the inside cover of the local telephone book.
- Work with the Virginia Division of Parks and Recreation to include components of the regional scenic waterway system in the State Scenic River System.

Some of these strategies have been used successfully in the development of the Virginia Beach Scenic Waterway System.

ADMINISTRATION

During the initial stages of the system's development, administration of the individual components of the system would best be handled by individual local governments. Local governments would give formal designation to the trails located within their jurisdiction. They would also be responsible for the installation of signs, the improvement and maintenance of existing trail access points, and, where necessary, the removal of obstructions from waterways. In situations where a trail is located along the boundary between two localities, it may be necessary to form an agreement between the two governments to assure mutual adoption of the trail and to establish joint administration policies.

Signage is one issue that would require regional cooperation at this point of the system's development. To identify a waterway trail as a component of the regional system, it should be marked with regionally consistent signage. The selection of this signage could be decided by the local governments through the SVPDC. The VDPR, through the 1987 Chesapeake Bay Agreement strategies, is working with the Maryland Parks and Recreation program to develop a Baywide access signage system. It would appear appropriate to use that system as the basis for any regional signage system. The SVPDC could also take the lead in the development of brochures and maps which promote the regional system.

If the system continues to develop and proves to be a success, it may become necessary to form a regional scenic waterways committee as an administering body. This committee, which would be comprised of representatives of the participating local governments and logically staffed by the SVPDC, would monitor the development, operation and maintenance of the entire system and encourage local governments to resolve any problems that may arise. Such problems might include waterway obstructions, conflicts with adjacent land owners, vandalism of trail facilities, waterway use conflicts and any hazards that might confront trail users. The committee would also coordinate promotional and volunteer maintenance programs. If any of the region's waterway trails are added to the Virginia Scenic Rivers System, this committee could also serve as the "administering agency" required under the Scenic Rivers Act.

An outgrowth of the scenic waterways committee discussed above would be the creation of a scenic waterways agency formed for the express purpose of administering the regional system. This agency, which would have its own staff and be funded by local governments and user fees, might become necessary if the success of the system warranted the development of extensive support facilities. Such facilities might include formal access points, campsites, fully equipped trail staging areas, canoe rental and/or food concessions, and tour guide services. This agency would also assume all planning, development, operation and maintenance responsibilities, and would be given the authority to acquire land. It could also be designated as the administering agency for local State Scenic Rivers.

COST

The cost of a regional scenic waterway system will depend on the scope of the development program. The least expensive system would simply involve clearing and maintaining waterway trails where necessary, installing signs and preparing a regionwide brochure and map. The most expensive system would involve these activities plus the creation of a special regional agency to administer the system, the development and maintenance of formal access points with a full range of support facilities, and the preparation of a series of trail-specific maps and brochures as well as the implementation of the other promotional strategies discussed above. Whichever development scenario is realized, local governments are likely to assume most of the cost of the system. Possible supplemental funding sources include user fees, concession lease fees, and state and federal grant programs discussed in Volume I.

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GLOSSARY

Access, Formal

Describes a public water access point which has been specifically designed for boat access.

Access, Informal

Describes a public water access point which has not been specifically designed for boat access.

Activity Day Method

A needs assessment technique employed by the Virginia Division of Parks and Recreation in 1982 and used in this study to estimate the regional resident demand for various outdoor recreation activities.

Atlantic Intracoastal Waterway

An inland waterway which begins at Mile Zero in Norfolk, Virginia and ends at Mile 1095 in Miami, Florida.

Bulkhead

Structure or partition built, usually along a shoreline, to prevent erosion.

Borrow Area (Pit)

A source of earth fill material used in the construction of embankments or other earth fill structures.

COE

U.S. Army Corps of Engineers

CRM

Coastal Resources Management

Culvert

A drain or conduit under a road or embankment.

Design Day Demand

Recreational demand on the peak day of an average week in the prime season.

Dike

An embankment to confine or control water, especially along the banks of a river to prevent overflow.

Downstream

In the direction of the mouth of a stream.

Estuarine

Pertaining to areas where freshwater meets saltwater (e.g., bays, mouths of rivers, salt marshes and lagoons).

Fastland

The relatively stable land found behind the immediate shoreline. The fastland is the site of most shoreline development.

Fetch

A continuous expanse of open water.

Groin

A rigid structure built at an angle (usually perpendicular) from the shore to protect it from erosion or to trap sand.

Habitat

The place, and the characteristics and conditions of that place, where an organism lives.

Hardwoods

Trees generally characterized as deciduous and having broad, flat leaves.

Head Boat

Commercial sportfishing boat providing recreational fishing opportunities for large groups of people.

Headwaters

The source of a stream.

LWCF

Land and Water Conservation Fund.

Marina

Small boat harbor or boat basin providing dockage, supplies and repair services for pleasure craft.

Marsh, Embayed or Creek

Marsh occupying a drowned creek valley.

Marsh, Extensive

Marsh with extensive acreage where the length and width are roughly comparable.

Marsh, Fringe

Marsh which borders a shoreline and generally has a greater length than width or depth.

M.L.W. (Mean Low Water)

Average height of low waters over a nineteen year period.

Mean Lunar Tide Range

The difference in height between the mean high water and the mean low water.

NWR

National Wildlife Refuge

Pier

A structure, usually of open construction, extending into the water from the shore. It serves as a landing and loading place for vessels, or for recreational purposes.

Piles

Long, heavy timber or section of concrete or metal driven or jetted into the earth for support or construction.

PDC

Planning District Commission.

Ramp

A sloping platform for launching small craft. In this study, each launch lane at a ramp facility is counted as one ramp.

Riprap

Large facing or protective mound of stones randomly placed to prevent erosion, scour or sloughing of embankment.

Shoaling

The accumulation of sand on the bottom of a body of water constituting a hazard to navigation.

Shoreline, Immediate

The buffer zone between open water and the fastland. The immediate shoreline generally consists of beach, marsh or swamps.

Surge

The rise above normal water level along a coast due only to the action of wind stress on the water surface.

Tide, Lunar

The rhythmic rise and fall of oceans and their tributaries caused by the gravitational effects of the moon and the sun.

Tide, Wind

The rise and fall of water level along the coast due only to the action of wind stress on the water surface.

Tidal Flat

A marshy or muddy area that is covered and uncovered by the rise and fall of the tide.

Upland

Land above the lowlands along streams.

Upstream

In the direction of the headwaters of a stream.

VCOE

Virginia Council on the Environment.

VCRMP

Virginia Coastal Resources Management Program.

VDOT

Virginia Department of Transportation.

VDPR

Virginia Division of Parks and Recreation

VGIF

Virginia Department of Game and Inland Fisheries.

VOF

Virginia Outdoors Fund.

Water, Brackish

Water with a salinity lower than seawater generally in the range of 0.5 - 17 parts per thousand.

Water, Fresh

Water with a salinity of less than 0.5 parts per thousand.

Water, Salt

Water with a salinity of greater than 17 parts per thousand (ppt). Seawater has a salinity of 30 - 35 ppt.

WMA

Wildlife Management Area.

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